CLARK UNIVERSITY

1979~80

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Clark University is a member of the New England Association of Colleges and Secondary Schools, which accredits schools and colleges in the six New England states. Membership in one of the six regional accrediting associations in the United States indicates that the school or college has been carefully evaluated and found to meet standards agreed upon by qualified educators.

It is the policy of Clark University not to discriminate against any applicant on basis of race, color, sex, religion, age, national origin, financial condition, or handicap. The University encourages minorities, women, the handicapped, and persons between 40 and 70 years of age to apply.

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About Clark University

A private, coeducational, liberal arts university with a Graduate School and a College of Professional and Continuing Education, Clark is a teaching and research institution at the frontiers of the arts and sciences. The oldest graduate university in New England and the second oldest in the nation, Clark opens the door between academic study and life achievement. The heritage of Clark is rich, providing a foundation on which today's scholars, teachers, and students are building.

Internationally known scholars have worked, taught, and lectured at Clark, and the students of the University have not only come from around the world, but have gone on to become leaders in many fields, in many nations. The influence of the University has been extended through professional journals and societies, including *Economic Geography* as well as the American Psychological Association and the American Physical Society, both founded at Clark.

Some of the names of Clark scholar/teachers are well known beyond the world of academe: Robert H. Goddard, the father of the space age; Hudson Hoagland and Gregory Pincus, coinventors of "the pill"; Albert A. Michelson, the first American Nobelist in science; and Franz Boas, the major influence on American anthropology.

Clark today is no less dynamic than it has been in the past. Especially through interdisciplinary programs, students and scholars are examining such issues as alternative energy sources, environmental impacts, the history of the American family, management of radioactive wastes, the hazards of technological growth, the spread of deserts, and the development of the Third World.

Clark features small classes and seminars; close relationships among students, faculty, and administration; exceptionally strong interaction between graduate and undergraduate programs; and unusual opportunities for independent study. Clark flexes the intellectual muscle of a respected graduate institution within the atmosphere of a small New England school. There are intimate seminar and laboratory settings, student participation in faculty research projects, and a dedicated, inquisitive, intellectual environment.

The Robert Hutchings Goddard Library is the academic heart of the University and contains 370,000 volumes and 50,000 microform volumes and subscribes to 2,300 periodicals. Large and small campus facilities—recently remodeled—are used for theater, music, and dance, as well as art exhibitions. A new student activities center offers facilities for virtually every sport and has a competition-size swimming pool. Campus buildings range from modern dormitories to Victorian era academic and administrative buildings.

For nearly one hundred years, Clark has held fast to a theme of academic excellence. That dedication remains as the University faces the twenty-first century.

The Undergraduate College

The role of Clark University in undergraduate education is that of a small college dedicated to advanced learning within the context of a university. The University's emphasis upon intellectual and scholarly achievement and the extensive resources of its nationally recognized Graduate School provide unique advantages for the college.

In the spring of 1973, the University adopted the concept of the university-college as the ideal toward which all undergraduate academic planning and program development should be directed. The university-college concept seeks to integrate graduate and undergraduate education, developing in students intellectual competence; personal maturity; well-developed skills in analysis, communication, and critical thinking; and—perhaps most importantly—the capacity to work independently as autonomous learners. Programs are structured so that students assume increasing responsibility for their own learning.

Clark has recently instituted the Introductory Program, a structured set of courses designed to supplement introductory level work in the incoming student's proposed field, to acquaint students with skills in critical thinking and knowing that are needed for self-directed learning, and to provide a framework within which an incoming student, in consultation with a faculty adviser, can select an organized pattern of study during the student's first two years in the University. The Introductory Program will be fully in effect in the fall, 1980 semester, and students entering in 1980 will be required to meet the critical thinking and perspectives requirements, described below. Students entering in 1979 are required to meet only the critical thinking requirements.

I. *Critical Thinking:* Every course in the University involves work in critical thinking. At the introductory level, however, two types of courses place special emphasis on the cultivation of skills in this area. Each student will be required to take *two* courses, one from each of these areas:

A. *Verbal expression:* A set ot courses offered in many different disciplines that place special emphasis on the relationship between writing and critical thinking as practiced in the context of that discipline.

B. *Formal analysis:* A set of courses offered in several departments that place special emphasis on logical and algebraic modes of thinking.

II. *Perspectives:* Each student will be required to take *three* courses (from different departments or programs), one each from three of the following categories:

A. *The Aesthetic Perspective* develops visual and aural skills and stresses the perception and expression of form in nonverbal media.

B. *The Historical Perspective* builds the capacity to understand the contemporary world in the larger framework of tradition and history.

C. *The Scientific Perspective* includes the principal methods and results of the systematic study of the natural world and our place in it.

D. *The Comparative Perspective* studies contemporary human diversity as expressed in geography, language, culture, or political systems.

E. *The Axiological Perspective* studies the dimension of value in all domains of life and learning.

Each of these perspectives is equally important in the development of a balanced view, but every student inevitably will work in several areas within a major program. Therefore, the three required perspectives courses should be selected in consultation with the adviser and should be taken from categories that complement the perspectives dominant in the proposed major field.

A major at Clark involves study in the various departmental and interdepartmental programs of the college and results in the bachelor of arts degree. The undergraduate major is not a departmental major in the traditional sense; rather, it is a program of study anchored in a particular discipline but specifically structured to include courses in related disciplines as an integral part of the major. Each major becomes interdisciplinary in design. This concept recognizes the need for depth of knowledge but acknowledges that intensive work in a major field is the core of the undergraduate experience. It also recognizes that breadth of knowledge must be maintained and achieved in more meaningful ways than through prescribed University-wide distribution requirements. Particular attention is placed on the interrelation of the major programs within the University and early research opportunities.

Ordinarily, multiple tracks within each major will be available. A student's major accounts for 50 to 80 percent of his/her studies beyond the freshman year. This intensive focus in the last three years permits depth and sophistication in the chosen field of study.

Academic Programs

A student may major in Art (Art History, Studio Arts, or Fine Arts, the latter two being offered through a cooperative program with the School of the Worcester Art Museum), Biology, Chemistry, Economics, English, Foreign Languages (French, German, Spanish, Romance Languages, or a self-designed combination), Geography, Government and International Relations, History, Mathematics, Music, Philosophy, Physics, Psychology, Sociology and Social Anthropology, or Theater Arts. Interdisciplinary majors are offered in Biochemistry; Business/Management; Comparative Literature; International Development and Social Change; and Science, Technology and Society. Courses in American Studies, Classics, Computer Science, Education, Environmental Studies, Geology, Hebrew, Judaic Studies, Russian, Screen Studies, and Women's Studies are offered, but departmental majors for bachelor degree candidates are not available. Detailed descriptions of all majors and programs can be found under the departmental listings.

Any student can design his/her own major focusing on a body of knowledge not within the bounds of existing majors or departments. With the advice of an advisory committee of three faculty members, the student establishes a major program, which must be approved by the Undergraduate Academic Board. Student designed majors must include a balance between upper and lower division courses and be approved no later than the start of the second semester, junior year.

INTERDISCIPLINARY PROGRAMS

BIOCHEMISTRY

The Biochemistry major at Clark provides a comprehensive foundation in all areas of this contemporary discipline. A small, selective program, it serves students with basic interests in health-related sciences. Those who are attracted to biomedical laboratory technology or medical school will find this program and its strong instrumental and biophysical emphasis valuable. For more information, refer to the departmental listing.

BUSINESS/MANAGEMENT

Students interested in a management career in a profit or non-profit organization (business, government, education, healthcare delivery system, religious institution, etc.) should consider majoring in Business/Management. Skills useful for a career or additional training are developed while the student acquires the breadth and depth essential to personal and professional growth. The Management program draws upon a variety of disciplines, integrating them into a program that is practical as well as broadly educational. For more information, refer to the departmental listing.

COMPARATIVE LITERATURE

This major allows the student of literature to transcend the boundaries of any one national literature, period, or genre. Comparative Literature students are encouraged to combine such areas as Philosophy, Sociology, Psychology, and History with their specific interests in Language and Literature. For more information, refer to the departmental listing.

INTERNATIONAL DEVELOPMENT AND SOCIAL CHANGE

The International Development and Social Change program focuses on questions of equity, growth, and development at a time when Third World countries are exerting increasing influence in the world's economic, political, and social systems. Intended to serve students from the developing world and the United States, the program provides a forum for diverse perspectives. Its hallmark: a unique combination of academic training and field research. Not only are students made aware of broad issues in international development, but they are trained in the basic skills of resource management and social and economic analysis. Many prepare for careers as planners, managers, and educators in public and private organizations that deal with the world's developing nations; others choose further study in graduate and professional schools. For more information, refer to the departmental listing.

SCIENCE, TECHNOLOGY AND SOCIETY

The Science, Technology and Society (STS) program is designed for students who expect to have a professional interest in dealing with current societal problems, such as energy supply, environmental protection, or control of technological hazards. Many students who wish to add breadth to their studies within a more traditional field, particularly the sciences, find it attractive to double major with STS or take STS courses as electives. For more information, refer to the departmental listing.

INTEGRATED UNDERGRADUATE-GRADUATE PROGRAMS

To help bridge undergraduate and graduate education, Clark has established several integrated programs that allow students to complete requirements for bachelor's and master's degrees at an accelerated pace. Because undergraduates are granted admission to these special programs before receiving their undergraduate degrees, they can begin to fulfill advanced degree requirements during their junior and senior years.

Each bachelor's/master's degree program is career oriented and spans several disciplines; each provides participants with the knowledge and skills needed for entry-level professional positions, and normally covers a three-year span, beginning in the junior year and leading directly to a master's degree. The bachelor's degree is awarded en route to the master's. The programs provide students with the knowledge and skills to enter a profession directly or to continue in a Ph.D. program elsewhere, emphasizing interdisciplinary education based on a common core of course work and opportunity for individual professional interests. Formal application for admission to these programs is required. Transfer students interested in making application to these programs should direct inquiries to the Admissions Office.

The University has approved programs of this type in Comparative Literature, Environmental Affairs, International Development and Social Change, and Management. Bachelor of arts and master of arts degrees are granted to successful candidates enrolled in the Departments of Comparative Literature, Environmental Affairs, and International Development and Social Change; bachelor of arts and master of business administration degrees are awarded to students who complete Clark's five-year program in Management.

In addition, the Department of Geography offers a five-year B.A./M.A. program and a seven-year B.A./Ph.D. program open to a limited number of highly qualified students.

Eventually, other integrated undergraduate-graduate programs will be added until a network of such programs is available as a new set of options in the university-college. Descriptions of available programs are included with departmental listings.

SPECIAL OPPORTUNITIES FOR STUDY

THE EXTENDED UNIVERSITY

Since Clark is a member of the Worcester Consortium for Higher Education, students may enroll for one course each semester at Anna Maria College, Assumption College, the College of the Holy Cross, Worcester Polytechnic Institute, Worcester State College, University of Massachusetts Medical School, or Becker, Quinsigamond, and Central New England Colleges.

Over four thousand students have cross-registered under the Consortium arrangement since 1968. Through the "extended University" Clark students immediately have available to them increased programs and course options. All of this is available at no extra charge to students or their home institutions.

Students from Holy Cross, Worcester Polytechnic Institute, and Clark University have worked together on a water pollution project; Consortium students have been involved in a lead-paint testing program; Engineering students from Worcester Polytechnic Institute, Massachusetts Medical School, and Quinsigamond Community College have worked with Clark students as a research unit for the Worcester Department of Public Health to conduct an infectious disease study. A health studies option, which arranges student internships in health care organizations and internships with research scientists in laboratory settings, is available through the "extended university" as defined by the Worcester Consortium. A music option also is available to stimulate intercollegiate participation in performing groups, to encourage cross-registration in music courses, and to make available concentrated study for students with extensive music backgrounds. Courses taken at Consortium institutions should not duplicate those taught at Clark. Approval of the department chairman or, where necessary, the dean of the college is required. Students enrolled in the day college may not enroll independently at other Consortium institutions and receive Clark credit. To help students select cross-registration courses, the Consortium Office compiles a master course list by subject. This list appears prior to registration and is located in the Registrar's Office.

WRITING AT CLARK

Clark strives to infuse writing skills throughout the undergraduate curriculum by offering interdisciplinary, departmental, and special Writing Center programs. The Project on Writing (POW!), funded by the National Endowment for the Humanities and coordinated by the University's Humanistic Studies Program, stresses teaching of basic communication skills through writing groups that complement a variety of interdisciplinary courses.

Academic departments, including English, History, and Biology, offer courses in basic, intermediate, and advanced expository writing/composition as well as science and social science writing. As a supplement to the curriculum, Clark's Writing Center provides individual and small-group tutoring and noncredit workshops for all interested students. Writing Center offerings are not limited to remedial work, but are flexibly designed to help students at all levels achieve clear, correct, graceful writing.

DIRECTED READINGS AND SPECIAL PROJECTS COURSES

Most departments offer directed readings or special project courses, which may be entered with the permission of the instructor concerned. Directed Readings courses comprise a sequence of structured readings on a given topic approved and directly supervised by the instructor. Special Projects courses involve independent research by the student on a particular problem, as in laboratory work or field study. Both types of courses are offered for variable course credit but not to exceed a full course except by petition to the College Board. The number of course credits awarded on the basis of work performed is determined at the end of the course. Students may take up to two full course credits in Directed Readings, Special Projects, or some combination of the two in a given one-semester period. There is no limit on the total number of such courses that may be counted toward the B.A. degree.

NONTRADITIONAL EXPERIENCES

Academic experiences outside the normal curriculum (*e.g.*, internship experiences, off-campus research, study at nonaccredited institutions) are eligible for course credit. To qualify, an experience must involve an extension, embodiment, or illustration in some significant way of previous or concurrent systematic academic work. It must take place under competent supervision and the learning involved must be formally evaluated by a Clark faculty member. The goals and structure of the experience must be agreed to by the instructor and the student *prior* to the beginning of the experience. Course credit will not be given for work that duplicates previous course work or other prior educational experiences. Students seeking information on this topic should contact the dean of students.

INTERNSHIPS

More than ever before, students are seeking to integrate formal educational with individual aspirations, preferences, and lifestyles. They wish to tie together theoretical and practical knowledge. For many, a nontraditional educational experience, such as an internship, offers an opportunity to achieve these ends.

An internship is an opportunity for a student to spend a semester working part or full time outside the University and to integrate this work experience with his/her academic program. Successfully completed internships may be awarded University credit toward the undergraduate degree. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent systematic academic work. It also must take place under competent supervision by an agency sponsor and the learning involved must be formally evaluated by a Clark faculty member.

Interested students should contact the Financial Aid Office, which has the responsibility of administering internship opportunities for Clark undergraduates.

STUDY ABROAD

Clark University has programs abroad in the German and Spanish language areas:

German:	Trier, Cologne
Spanish:	Guadalajara

Academic programs in most fields of study are available for one semester or the entire academic year. In addition, at Trier and Guadalajara, Modular Term (May–June) programs are offered in German and Spanish, respectively.

Clark University has exchange relationships with the universities of Sussex and Manchester in England, permitting qualified Clark students to study for one year in England.

For further information, and to explore the possibility of integrating study abroad into an undergraduate program, students should contact Jan Smith, International Programs Office.

WASHINGTON STUDIES PROGRAM

Clark participates in the Washington Semester Program of the American University in Washington, D.C. and the Washington Center for Learning Alternatives Internship Program.

Under the program, a small number of superior students may be nominated to attend the program, usually in the junior year, studying United States government in the nation's capital. Although any student may be interested in the program, the opportunity should be particularly attractive to students majoring in Government and International Relations, History, Economics, or Sociology. A credit of four courses is given for the program toward the bachelor's degree at Clark. Inquiry and application should be made to the chairman of the Department of Government and International Relations.

THE MODULAR TERM

The Modular Term is an extension of the normal academic year at Clark University. Registration is optional and open to all Clark students as well as to qualified non-Clark students. This seven-week term provides a wide selection of normal departmental and interdepartmental course offerings supplemented by a number of special programs and academic opportunities unavailable during the fall and spring semesters.

It is possible, for example, to take a full year of a foreign language in this seven-week term. International field study and internship opportunities also are available.

The faculty is composed of the resident Clark faculty and invited visiting lecturers from other institutions and the Worcester community. A variety of recreational and extracurricular activities also are an integral part of the program.

Clark students may accelerate their academic program by taking courses in the Modular Term. Students who have registered for four full courses throughout semesters one and two may receive a 20 percent reduction on tuition for the Modular Term.

A catalog listing course offerings for the Modular Term is available in the spring.

PREPROFESSIONAL PROGRAMS

Although a liberal arts institution, Clark University recognizes the need for providing students with opportunities to develop professional skills. In that spirit, Clark offers a bachelor of fine arts degree, a major in Business/Management, and courses in Education. For more information on these programs, refer to departmental listings. In addition to these formalized programs, Clark has identified the courses and major offerings appropriate to preparation for careers in law and medicine.

Students interested in a prelaw program are advised to plan a broadly-based academic program, which is liberal in character and has adequate samplings drawn from the natural and physical sciences, social sciences, and humanities. While there is no specific major or constellation of courses recommended for all prelaw students, it is important that the courses selected lead toward the development of certain skills: (1) *Communication and articulation skills:* courses in composition, creative writing, as well as courses in History, Philosophy, Government, and other social sciences and humanities in which the ability to read and write well is stressed; (2) *Quantitative analysis and graphical presentation:* courses in Mathematics, Computer Science, and certain courses in Economics and Geography, which help develop the ability to compile, understand, and interpret data and to present and analyze it in graphical form; (3) *Logic:* the study of law requires the systematic analysis of propositions and of the conclusions that can be drawn from them; all courses that provide training in this skill, such as those in Philosophy (logic), Mathematics, and some of the natural and social sciences are highly desirable; (4) *Critical understanding:* courses in ethics (Philosophy), History, Sociology, and other social sciences that promote understanding of human institutions and values are recommended.

In general, the records of students applying to law schools will be evaluated according to several criteria: (1) the overall quality of grades, (2) the breadth and distribution of courses, and (3) evidence of advanced learning and scholarship.

Students who are interested in prelaw are urged to consult their faculty advisers, the members of the Prelaw Advisory Board, and the prelaw *Handbook*, available in the Office of Career Planning and Placement.

Students interested in premedical or predental programs major in any of the sciences, social sciences, or humanities, but must complete—normally before the junior year—at least the minimum requirements for admission to medical and dental schools: one year of General Chemistry, one year of General Biology, one year of Organic Chemistry, one year of Physics, and one year of English. Calculus also is strongly recommended or required by many medical and dental schools. While there is considerable variation, some medical and dental schools encourage students to take courses in Quantitative Analysis, Physical Chemistry, and Advanced Biology. Proficiency in quantitative reasoning should be developed, and courses in Mathematics and in the sciences, as well as many social science courses are helpful toward that end. Although students are encouraged to take more than the minimum number of science courses required for admission to medical/dental schools, they also are urged to build breadth into their programs and to demonstrate their ability to handle successfully work in advanced courses. In selecting their courses and planning their programs, students are urged to consult their faculty advisers, members of the Premedical/Predental Advisory Committee, and the *Handbook* compiled by the committee. Copies of the *Handbook* and other materials pertaining to premedical, predental, and other health-service education are available in the Office of Career Planning and Placement.

Requirements for a Bachelor's Degree

GENERAL REQUIREMENTS

Course requirements: Credit toward the bachelor of arts degree is expressed in terms of courses. A one-semester course normally involves two 75-minute or three 50-minute class meetings per week and three to four hours of laboratory per week, where appropriate. A course may be offered at half-strength or double-strength intensity over a half-semester.

Minimal academic performance: To graduate with the B.A. degree, a student must receive passing grades in the 32 full courses required for graduation; he/she must receive a C— or better in at least 24 of these courses. Equivalencies for students with fewer than 32 courses in residence will be established by the College Board.

For the purpose of transfer, a full course is equivalent to four semester-hours credit.

RESIDENCE

At least one half of the total number of courses required for a bachelor's degree and at least one half of the total number of courses taken for fulfillment of a major usually are taken at Clark. Eight of the last sixteen courses must be completed at Clark.

TOTAL COURSE REQUIREMENTS

Successful completion of a total of 32 full courses is required for the bachelor's degree.

DECLARATION OF THE MAJOR

A student must declare his/her major no later than the start of the second semester, sophomore year. Changes in major after this point are possible but may prolong the undergraduate experience. During the freshman year, students are encouraged to seek faculty advice and give careful attention to their future program of study.

MAJOR REQUIREMENTS

A departmental major consists of from 12 to 19 courses taken from those designated by the department. No department may require a student to take more than 19 courses in the major, but a student may take more than 19 courses if he/she meets the other requirements for graduation.

Academic Regulations

The undergraduate normally carries a full program of four courses per semester. Students should consult their faculty advisers or major departments when questions about course or program selection arise.

Freshmen and sophomores may choose any course designated by the department as open to them. Freshmen and sophomores are admitted to 200-level courses only with permission of the instructor and the department chairman concerned, to whom the student must present evidence of high class standing and/or adequate preparation.

Junior and seniors may elect any 100- or 200-level course; course selection by juniors and seniors is subject to conditions stated in course descriptions.

Undergraduates may be admitted to 300-level courses (courses primarily for graduate students) with the approval of the dean of the Graduate School.

ACADEMIC ACCELERATION

The University encourages academic acceleration for qualified undergraduate students. A student may earn the bachelor's degree in less than four academic years through a combination of Advanced Placement credit, overload course work, attendance in the Modular Term, and participation in summer schools. Except with permission of the College Board, no student may take overload work in his/her first semester in residence unless the overload is the result of co-recommended or co-required one quarter or one half courses (e.g., some science laboratory courses). After the first semester in residence, students may take up to four and one half courses over a semester period. Students with B+ or better grades in three out of four courses, and no Ds in any course taken during the previous semester may be eligible for further overload course work, with the approval of the student's adviser or department chairman.

GRADES

At the time of final registration, each undergraduate must elect one of two grading options for each of his/her courses. The first option is to receive a grade (A, B, or C with modifying symbols plus or minus, or D) or "no record" (NR). The second is to receive the letter P which indicates successful completion of the course at C– or better or a "no record." If the grading option is restricted by the instructor, the student may receive a Cr (indicating successful completion of the course at C– or better) or a "no record." Reports on the work of each student are made out at the end of each course. All courses in which a student receives NR do not appear on the student's permanent record.

The faculty has approved the following qualitative description of grades:

In reference to the Clark student body as a whole over the long run,

A	indicates work of distinction, of exceptionally high quality
B	indicates good work, but not of distinction
C	indicates satisfactory work
D	indicates marginal work
NR	indicates unacceptable work

INCOMPLETES

A record of incomplete may be permitted by approval of the College Board or deans of students only when sickness or some other unavoidable circumstance prevents completion of the course. A record of incomplete incurred in the first semester must be made up no later than the following April 1; if incurred in the second semester or in the Modular Term, it must be made up no later than the following October 1. If a course is not completed within the specified time, the record of incomplete is changed to NR.

EXAMINATIONS

Final examinations are given at the end of many courses. Approximately one week is set aside for each examination period, and an attempt is made to distribute examinations for individual students evenly throughout this period. Absence from a final examination, except for the most compelling reasons, may result in an NR in the course. Other examinations and tests may be given at any time during the course at the convenience of the instructor.

CLASS ATTENDANCE

The University has no class attendance requirement; however, instructors have the prerogative of establishing such requirements for their own courses.

REGISTRATION

Every student registers for courses at the beginning of each semester; a special registration is held for the Modular Term. Notification of the dates for registration is given, and failure to register within the announced period results in a late fee.

ELECTION OF THE PASS OPTION

The availability of the "pass" option (P) in virtually all courses is designed to help minimize the competitive aspects of grading for those who find competition detrimental to learning. Some students may wish to elect a number of their courses on this basis.

All students should remember that the great majority of graduate and professional schools have expressed a preference for graded transcripts and encourage applicants to have many graded courses. Preprofessional students and those for whom graduate school is a goal should exercise caution in employing the "pass" option. Students who are interested in attaining honors, such as Phi Beta Kappa and general course honors at graduation, also should exercise the option cautiously.

RESTRICTION OF OPTION

A department may, with the approval of the Undergraduate Academic Board, restrict the grading option for its majors in the major program. An individual faculty member may, with the approval of the Undergraduate Academic Board, offer a course on a "credit/no-record" basis.

NONCREDIT AUDIT STATUS

Full-time degree students are eligible to register as auditors in any course with the permission of the instructor. There is no additional charge for this privilege. Part-time matriculated students also may register as auditors with the permission of the instructor and the payment of $193 per course.

Matriculated students who successfully complete audited courses (this determination is made by the instructor) will have the audited courses posted on their permanent records.

Persons not enrolled as full-time Clark students who wish to audit courses on a noncredit basis are invited to do so. Approval of the instructor of the course is required. In limited-enrollment or sectioned courses, regularly enrolled Clark students are given preference for available openings. Registration is arranged through the Registrar's Office. A fee of $193 per course will be charged.

NOTE: Records for nonmatriculating auditors are kept for only the semester in attendance. Transcripts are not issued for audited courses.

WITHDRAWAL FROM COURSES

A student may withdraw from any course at any time during the first four weeks of classes (regardless of the grade thus far attained in that course) providing that, after withdrawal, he/she is carrying no fewer than three courses. Withdrawal from courses during the last two weeks of classes requires permission of the College Board.

COURSE CHANGES

A student may enter a course without special permission (unless such permission is required) any time up to final registration at the end of the first week of classes. After the first week, a student may enter a course with the permission of the instructor up to four weeks after the beginning of classes in a semester-length course. Thereafter, a student may enter a course only with the permission of the instructor and the College Board.

CLASSIFICATION OF STUDENTS

All students who have not been required to withdraw at the end of the academic year will be promoted if they have satisfactorily completed the following number of courses:

To the sophomore class	6 courses
To the junior class	14 courses
To the senior class	22 courses

PARTIAL PROGRAMS

In special circumstances, students may be permitted by the deans of students to register for a semester program of less than three courses. These students are designated as part-time students. All students registered for less than four full courses per semester will be required to pay a standard surcharge of $232.50 (ten percent of tuition), which will be added to the prorated tuition charge. For example—the charge for three units would be $1,743.75 + $232.50 = $1,976.25.

GUEST AND SPECIAL STUDENTS

The University provides for guest students from other colleges and universities who wish to study at Clark for one or two semesters and for special students who wish to take only a few courses without enrolling as degree candidates. Students enrolled as guest students should contact the Admissions Office. Persons interested in special student status should contact the registrar.

PROBATION

A student whose accumulated courses at the end of one semester are fewer than three (or fewer than two and one half in the case of a freshman) will be reminded by the dean that the student is in jeopardy of being required to withdraw.

DISMISSAL

A student may be required to withdraw from the college by failing to complete successfully five courses during freshman year and six courses each year thereafter. Students who are required to withdraw ordinarily will not be eligible for a Jonas Clark Scholarship for the first semester of their return to the University. Students who meet demonstrated need and Federal eligibility requirements may apply for available loan and job funds. The Financial Aid Office will reinstate scholarship funds after successful completion of one semester.

PLAGIARISM

To insure academic integrity and safeguard students' rights, all cases of plagiarism should be reported to the College Board. Such reports of plagiarism should be carefully documented, and students accused of the infraction notified of the charge. Students found guilty of plagiarism are liable to suspension or expulsion.

LEAVES OF ABSENCE

A student who is in good standing may apply to the deans of students for a leave of absence, after which he/she may return to the University without formal application for readmission.

Honors and Awards

DEPARTMENTAL HONORS

A student may elect a program leading to a bachelor's degree with honors in a particular subject at the beginning of the junior year and, in some cases, at the beginning of the senior year. Under the plan, the department appoints an honors adviser who assists the student in planning a unified program of courses for the junior and/or senior years. The program may include a maximum of six courses in which the student works with a large measure of independence under the supervision of the adviser. In the senior year, the student must pass a comprehensive examination given by the department.

Students may apply in writing to their major departments for permission to take honors work, not later than May 1 of the sophomore year or, in some departments, in the junior year. Department approval is necessary for admission to such work. In exceptional cases and in certain departments, application may be made and admission approved by the department concerned as late as the first two weeks of the senior year, but only with consent of the College Board.

Admission to an honors program does not relieve the student from any of the standing regulations. A student's candidacy for honors will be terminated at the end of any semester in which he/she has not maintained a standard satisfactory to the department in which the honors work is being done.

The department may recommend the student's graduation with honors, high honors, or highest honors; such recommendation occurs at the conclusion of the honors program.

GENERAL HONORS

General course honors are determined annually by the College Board on the basis of eight semesters' work or its equivalent. Criteria, such as grades, percentage of courses taken on P/NR and graded basis, and number of courses at Clark, are used for determining the awarding of general honors. Ordinarily three quarters of a student's record at Clark must be graded if he/she is to be eligible for general honors.

PHI BETA KAPPA

The Society of Phi Beta Kappa, founded at the College of William and Mary in 1776, is dedicated to the recognition and encouragement of outstanding scholarly achievement in liberal studies. The Clark Chapter, Lambda of Massachusetts, was established in 1953. Each year, a limited number of juniors and seniors are elected to membership on the basis of distinction in programs that are clearly liberal in character, with due consideration of evidence, both formal and informal, of high scholarship and creativity.

Tuition and Other Charges

SUMMARY OF TUITION AND OTHER CHARGES FIRST AND SECOND SEMESTERS ACADEMIC YEAR 1979 - 80

Tuition	$4,650
Health Fee	75
Room (Dormitory: Single $985, Double $865)*	865
Board (19 meals $990, 10 meals $790, 5 meals $540)	990
Student Activity Fee	116
Subtotal for continuing students	$6,696
Charges which apply to new students only:	
Contingency Deposit	$ 25
Orientation Fee	60
TOTAL	$6,781

*Clark-owned Houses
Single $1020, Double $920

OTHER FEES	
Health and Accident Insurance (optional)	$104
Application Fee (undergraduate)	20
Transcripts (No charge for the first one; $1 per transcript for requests made in the senior year)	2

DEPOSITS	
Admission Deposit (new students)	$100
Tuition Deposit (upperclassmen)	200
Dormitory Deposit	75
Key Deposit—Dormitory Room	5
Key Deposit—Mailbox	1

Note: Costs are subject to change from year to year.

GENERAL INFORMATION

Tuition, board, dormitory charges, and certain fees are due and payable prior to the beginning of each semester. The dates for 1979–80 are: August 15, 1979 for Semester 1 and December 15, 1979 for Semester 2. Students are not permitted to register for any semester until all financial obligations have been satisfactorily arranged with the University.

There is a *late* fee of $25 assessed against all accounts not paid in full by the August and December due dates. In addition, *interest* at the rate of 1 percent per month (annual rate, 12 percent) will be charged on all balances (including tuition deposit) 30 days or more past due.

REFUND POLICY

Withdrawals are arranged in the Dean of Students' Office. A student who officially withdraws in writing during the first week of any semester is allowed a refund of 80 percent on tuition; during the second week, 60 percent; during the third week, 40 percent; during the fourth week, 20 percent; after the fourth week there is no refund. The activities fee is refunded by the same formula. There is no refund on other charges, except board, when a student withdraws from the University.

When a student has left, but not withdrawn from, the University on the advice of a doctor within the first four weeks of a semester, and a decision is made later that the student must withdraw, tuition refund is made retroactive to the date of the doctor's recommendation, based on the schedule described above. A detailed statement of the refund policy may be obtained in the General Office.

PROGRAM REDUCTION POLICY

A normal academic program is four courses each semester. Part-time status is allowed only with prior permission of the dean of students. If given permission to register for less than four units, a standard surcharge of $232.50 (10 percent of tuition) will be added to the prorated tuition charge. For example—the charge for three units would be $1,743.75 + $232.50 = $1,976.25.

ORIENTATION FEE

A fee of $60 is assessed all new students to cover food and other related costs during orientation.

CONTINGENCY DEPOSIT

All undergraduates are required to pay a $25 deposit to cover minor charges, such as property damage, which may be incurred during the year. Students are billed each year for whatever charges are incurred; the balance is refunded upon completion of studies.

DORMITORY DEPOSIT

A dormitory deposit of $75 is required of upperclassmen each spring to reserve a place in a dormitory. It is credited toward dormitory charges. The deposit is *forfeited* if the student does not enroll for the specified semester.

APPLICATION FEE

A fee of $20 must accompany the application for admission to the college. It is *not refundable.*

STUDENT ACTIVITY FEE

A fee of $58 per semester, levied and administered by the Student Council, is required of all matriculated undergraduates. It pays for admission to and participation in a wide range of cultural and recreational activities.

ADMISSION DEPOSIT

A deposit of $100 is required of all applicants when they accept the University's offer of admission. It is credited toward charges for the first semester. The deposit is *forfeited* if the student does not enroll for the specified semester.

TUITION DEPOSIT

A deposit of $200 is required of all students planning to return to the University for their sophomore, junior, or senior years. It is payable by May 1 and is credited toward charges for the fall semester; $100 of the deposit is forfeited if the student does not enroll for the specified semester.

IDENTIFICATION CARD

Identification cards are issued each year to all students without charge. This card is an official college identification and should be carried at all times. Loss should be reported immediately to the General Office. There is a $3 replacement charge for lost I.D.s.

KEYS AND KEY SECURITY

Key Deposit: A deposit of $5 for each room key issued is required, refundable upon the return of the key. A $1 deposit is required for all mailbox keys, also refundable upon return of the key. The deposit is forfeited if the key is lost or is not returned within 30 days after the close of school or departure of the student from campus.

I.D. Required: Clark I.D. cards must be shown for issuance of keys.

CLARK UNIVERSITY TUITION BUDGET PLAN

The University offers a budget plan designed for families who find it more satisfactory to budget college costs from monthly income as opposed to the traditional twice yearly payment system. Under this plan, annual college charges are divided into 10 consecutive monthly payments. The initial payment is due in May and the final payment will be due in February of 1980. The only fee for participation in this plan is $30. This fee includes the cost of automatic life insurance coverage guaranteeing payment of the balance of the budgeted amount to Clark University in the event of the death of the insured parent. This program is administered for Clark University by Academic Management Services in Pawtucket, Rhode Island. Information regarding this plan is mailed to all students who are offered admission to the University.

Student Services

ORIENTATION

All new students are expected to attend the orientation program at the opening of their first semester. This program helps students plan a course of study and familiarizes them with the Clark and Worcester communities. While the emphasis is on academic advising and placement, orientation also facilitates personal and social adjustment.

ADVISING

The faculty, administration, and staff are regularly available to all Clark students for appropriate counseling. Questions are resolved by individual conferences and sometimes through group meetings. Students may choose (and change) faculty advisers; these advisers assume primary responsibility for the academic guidance of declared majors.

HOUSING

Clark University provides housing for approximately 1100 students in both coeducational and single sex dormitories and houses. Single freshmen not living with their families are expected to live on campus and can usually choose dormitories where the majority of residents are either freshmen or upperclassmen. Transfer students must apply for housing, which is assigned on a space available basis.

Upperclassmen generally have first choice if living in University-owned accommodations, or they may move off campus into private apartments.

Rooms are assigned by the dean of students prior to the arrival of new students, and requests to live on campus, when honored, are considered binding for the remainder of the academic year as long as the student is registered.

DINING HALLS AND MEALS

Dining halls in Dana Commons and Jefferson Hall are operated for the convenience of the Clark community and guests. Service is cafeteria style, and students select from a variety of plans with respect to both the number of weekly meals and particular dietary needs, such as kosher or vegetarian. "The Locker Room"—a casual gathering place for food, drink, socializing, and entertainment—includes snack and juice bars, game and TV rooms, and a rathskellar.

HEALTH SERVICE

The University Health Service provides medical diagnosis and treatment on an out-patient basis and appropriate referrals, when indicated, through the Fallon Clinic, a multispecialty group practice. A staff of nurse-practitioners, registered nurses, and physicians is in regular attendance, and there is full provision for after-hours emergencies. Other services, specialists, and facilities are available in Worcester. All students are required to show proof of medical insurance coverage, through either a family policy or one obtainable at Clark, in order to register for courses.

PSYCHOLOGICAL SERVICES

The Clark University Psychological Services Center offers psychodiagnostic, psychotherapeutic, and referral services to members of the Clark community. Administratively the center is part of the Department of Psychology and is a training agency for graduate students in clinical psychology. A significant portion of the center's work is done by graduate students under supervision of several faculty-staff members who are clinical psychologists. There is also a part-time psychiatric consultant. A brochure describing the center and its services may be obtained at the center's main offices in Room 301 of Jonas Clark Hall.

OFFICE OF CAREER PLANNING AND PLACEMENT

The Office of Career Planning and Placement is a resource to which students are encouraged to turn for individual assistance in working through the relationships between undergraduate study, personal values and goals, and postcommencement options.

Students and alumni of the University may use the services of the Office of Career Planning and Placement: (1) a library of graduate and professional school catalogs and a variety of directories and program listings available to students in their search for desired fields of graduate/professional study; (2) extensive information about career possibilities of interest to Clark students, extending from traditional fields of endeavor to new, developing, and nontraditional career areas; (3) strong support for students in their senior "job-search" process, including directories of organizations that are potential employers in many fields, help in the process of resume-writing, and a resume-mailing service; and (4) professional help in these specific services by means of informal conversation, interest surveys, and counseling.

Physical Education and Athletics

Athletic programs are designed to stimulate and encourage students to wider participation in physical activities, promote health and mental efficiency, and lead to continuing participation throughout life. Participation is voluntary.

STUDENT ACTIVITIES CENTER

Clark has a new student activities center, which houses all male and female athletic and recreational programs. The center has a central gymnasium with three full-size basketball courts, three volleyball courts, three tennis courts, eight badminton courts, a jogging track, and a setup for gymnastics. There is a 6-lane, 25-yard pool with 1- and 3-meter diving boards. There are four handball/paddle racquet courts, two squash courts, and areas designated for weight training, exercising, crew, and dance.

INTERCOLLEGIATE ATHLETICS

For students with a reasonably high level of skill and a well-defined and strong interest in athletic competition, intercollegiate schedules are arranged in soccer, cross-country, golf, hockey, baseball, and track for men; for men and women, in basketball, crew, tennis, and swimming; for women, softball and field hockey. Additional intercollegiate competition may be arranged as student interest warrants.

Clark University is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference, the New England College Athletic Conference, and numerous sports associations. Clark is an N.C.A.A. Division III school and typically competes with the following Division III, Division II, and Division I schools: Amherst, Williams, Brandeis, Tufts, M.I.T., Bates, Bowdoin, Colby, Middlebury, Coast Guard, Assumption, Holy Cross, W.P.I., Springfield.

INTRAMURAL ATHLETICS

The opportunity to gain some of the benefits of participation in competitive athletics is offered to all students through organized intramural competiton in touch football, basketball, volleyball, tennis, handball, table tennis, paddle racquets, softball, soccer, squash, golf, swimming, and a superstars tournament.

VOLUNTARY PHYSICAL EDUCATION PROGRAM

Individual and group no-credit classes are offered each semester in ballet, modern dance, gymnastics, yoga, karate, tennis, judo, weight training and conditioning, and fencing. Inquiries should be directed to the Department of Athletics.

COEDUCATIONAL RECREATIONAL ATHLETICS

Students may participate in coeducational and recreational leisure-time activities including archery, badminton, basketball, fencing, golf, gymnastics, horseback riding, sailing, swimming, tennis, softball, volleyball, and in several dance activities, including folk, square, and modern dance. The same activities are available to men's and women's groups. (Off-campus arrangements must be made for golf, sailing, and horseback riding.)

Admission

FRESHMAN ADMISSION

Clark University welcomes applications for admission from men and women without regard to race, color, religion, age, national origin, financial condition, or presence of any handicap. Selection is competitive and based primarily on academic promise as indicated by secondary school performance, recommendations, and Scholastic Aptitude Test scores. Secondarily, decisions reflect consideration of the individual experience and particular circumstances unique to each candidate.

ENTRANCE REQUIREMENTS

In general, the completion of a minimum of 16 acceptable units of credit in a four-year secondary school program or its equivalent is required for admission to the freshman class. Such preparation typically includes four years of English; two or more years of any foreign language studied; two or more years of mathematics (three or more for those planning a science or mathematics major); at least one year each of social studies and natural science (more laboratory work for those planning a science major); and other credit electives, including the arts, recognized in the secondary school curriculum.

ADMISSION TESTS

Applicants for freshman admission in September must submit the results of the Scholastic Aptitude Test administered by the College Entrance Examination Board no later than January. Three Achievement Tests are required and must include English Composition.

REGULAR ADMISSION

Candidates for freshman admission in September should initiate their applications as early as possible, usually during the first semester of the final year of secondary school, and no later than February 15. The deadline for admission at midyear is December 1. A nonrefundable fee of $20 must accompany each undergraduate application unless a waiver is being requested. Clark participates in the Common Application Program and accepts photocopies of the appropriate forms, which are distributed to secondary schools.

EARLY ADMISSION

Exceptional students are invited to apply for early admission when encouraged and supported by enthusiastic recommendations from their secondary schools.

EARLY DECISION

As a service to students for whom Clark is clearly first choice, Clark has established an Early Decision Program. Applications in writing for an early decision may be submitted anytime until January 15. Notification is on a rolling basis and decisions are announced within 30 days of receipt of a completed application. Candidates will be offered admission or deferred for further consideration with regular applicants. Although this program does not preclude regular applications to other colleges, participation by a student does imply a commitment to withdraw such applications upon notice of acceptance by Clark.

INTERNATIONAL ADMISSIONS

Foreign students attending secondary schools *within* the United States may use the standard application forms, but it may also be necessary to submit an international application. The Test of English as a Foreign Language (TOEFL) is required of all candidates whose native or official language is not English. TOEFL results for successful applicants are usually in the 550–650 range. For information, write to: TOEFL, Box 899, Princeton, N.J. 08540. Those attending secondary school in the United States for less than four years need *not* submit results from the Scholastic Aptitude Test (SAT) but *must* submit TOEFL scores if their native language is not English. Financial aid for foreign students is limited; the maximum scholarship for students from abroad in 1979–80 is $3,500/year based on completion of a financial aid application. Those at secondary schools in the United States under a student visa will need another visa for university study. The *Certificate of Eligibility (I-20)*, necessary to obtain a student visa, will be granted *only* after full admission and receipt of a *Certification of Finances* signed by a bank official.

NOTIFICATION OF ADMISSION AND DEPOSIT

Regular notification of admissions decisions for September freshmen occurs on or about April 1, and Clark subscribes to the Candidates' Reply Date, May 1. In all cases, a nonrefundable deposit of $100 is required to indicate acceptance of an offer of undergraduate admission. This deposit is credited toward charges for the first semester in attendance.

DEFERRED ADMISSION

Students wishing to postpone enrollment need only submit a request in writing by the assigned reply deadline. The tuition deposit then becomes due on April 1 of the following year for September admission or by December 1 for entrance in January. Students who undertake a full program of academic work in the interim may not automatically defer enrollment, but must reactivate their applications by submitting official transcripts for review.

ADVANCED PLACEMENT/STANDING

Placement in advanced courses is determined by individual performance on departmental examinations, which may be oral or written, or on the Advanced Placement and Achievement Tests of the College Entrance Examination Board. Each score of 4 or 5 on an AP Test, for example, will be credited with a value of two course-units at Clark. Advanced standing may also be earned by transfer; presentation of an official transcript of college-level course work already completed is required.

TRANSFER CREDIT

Normally, credit is given for academic courses in the liberal arts previously taken at accredited colleges and universities and for Advanced Placement Test results as described above. Credit for courses at nonaccredited institutions is granted on a provisional basis to be evaluated upon successful completion of two semesters of full-time work at Clark. No credit is given for any course completed with a grade lower than C-minus.

Evaluation of credits for college courses completed elsewhere is made on request, at the time of admission or upon receipt of final transcripts, and is used in planning a course program and in provisional classification as a freshman, sophomore, or junior. A maximum of 50 percent of both the Clark B.A. degree and the departmental major requirements may be accepted in transfer, and normally, a minimum of two academic years at Clark is necessary for completion of degree requirements.

TRANSFER APPLICANTS

Clark welcomes applications for admission with advanced standing from students attending two- and four-year institutions. The majority of students admitted enter at the junior level, although many transfer to Clark with sophomore and advanced freshman standing.

Of special interest to transfer candidates are the University's B.A./M.A. program options in Comparative Literature, Environmental Affairs, and International Development and Social Change.

The application deadline is May 15 (December 1 for places available at midyear).

TRANSFER REQUIREMENTS AND NOTIFICATION

All applicants for transfer are required to submit evidence of good standing, complete transcripts of all previous academic work—secondary level and beyond—including the Scholastic Aptitude Test if taken, and any other information requested by the Admissions Committee, such as recommendations and course description catalogs. Decisions are announced as soon as possible depending upon completeness and scope of records.

CAMPUS VISITS AND INTERVIEWS

Prospective students are encouraged to visit the campus and are invited to write or call the Admissions Office (617-793-7431) for details. Interviews, both on and off campus, are available with members of the admissions staff or alumni by appointment in the fall and winter. Interviews are not an admission requirement.

Undergraduate Financial Aid

GENERAL INFORMATION

Financial aid is allocated on the basis of financial need and academic performance. Special talent in music, art, athletics, and other areas, as well as leadership ability also are considered. However, in no case will an award exceed a student's financial need. Aid is packaged—i.e., a combination of scholarships, grants, loans, and part-time employment. The Committee on Financial Aid assesses each student's financial circumstances on the basis of the uniform methodology utilized by most institutions and approved by the Federal government. The assessment takes into account family income and assets, age of parents, financial commitments to other dependents and members of the family, and other special circumstances.

The University expects that a student's resources for education will come first from family and his/her own savings and earnings; the University will make every effort to assist the student in obtaining the difference between the total cost and available family resources. No student should fail to apply for admission to Clark University because of the inability of his/her family to pay total educational costs.

INDEPENDENT SOURCES OF ASSISTANCE

All applicants for financial assistance are urged to pursue independent sources of financial assistance. Clark cannot replace outside funds for which a student is eligible but fails to apply. Scholarships are often awarded to graduating seniors by high schools and/or private scholarship agencies in students' local communities. Additional information usually is available in guidance offices.

Residents of Massachusetts are expected to apply for a *State Scholarship*. To apply, students must complete state Financial Aid Forms (FAF), which may be obtained from guidance counselors or financial aid offices. Out-of-state students should investigate the possibility of using state scholarships at Clark.

An important source of Federal financial assistance is offered in the form of *Basic Educational Opportunity Grants* (BEOG). These grants, which vary in amount up to $1,800 per year are available to students who demonstrate financial need according to Federal regulations. All applicants for financial aid are required to apply for a BEOG. Students may apply for a BEOG by checking the appropriate item on the FAF.

The *Guaranteed Student Loan Program* is designed primarily for middle income families who do not qualify for other types of financial assistance. For those who need additional help, it may be utilized as a resource to supplement scholarship, grant, and loan. Offered chiefly through lending institutions, this program is subsidized by Federal funds. The Federal government will pay the 7 percent simple annual interest while the student is in college. Loans up to $2,500 per academic year are offered in most states. Total loans outstanding may not exceed $7,500 for an undergraduate student. Additional information and application materials are available at local banks. Information for entering freshmen and upperclassmen may be obtained at the Financial Aid Office.

Veteran's Benefits may be available for service veterans and children of deceased and/or disabled veterans. Eligibility can be determined by contacting your local Veterans Administration Office.

Social Security Education Benefits may be available for children whose parent(s) are deceased and/or disabled. Additional information is available at your local Social Security Administration Office.

Rehabilitation Assistance may be available for students who qualify for educational benefits. Information concerning rehabilitation services can be obtained at the State Rehabilitation Office.

Clark University Financial Assistance

Clark University makes a commitment to entering students during their freshman year and in each subsequent year at Clark as long as they continue to show financial need. Although any student who enters Clark may apply for assistance as an upperclassman, guarantees are made only to those needy students who received aid their first year.

Assistance at Clark is "packaged" in the form of scholarship, loan, grant, and employment from the following sources:

Jonas Clark Scholarships—a portion of the University income is reserved for this purpose and gifts from alumni, parents, and friends provide additional scholarship funds.

Supplemental Educational Opportunity Grants—part of a federal program of assistance to college students demonstrating exceptional financial need. Continued support of this fund is contingent upon annual congressional allocations.

National Direct Student Loans—long-term loans that bear no interest until nine months after a student ceases to be at least a half-time student at an institution of higher education. At that time, interest begins to accrue at the annual rate of 3 percent on the unpaid balance. A person borrowing from this fund will repay the amount in equal installments of at least $30 per month principal over an extended repayment schedule of up to ten years. Continued support is contingent upon annual congressional allocations.

Student Employment— available during the summer and part time during the academic year. The basic source of funds for employment is the Federal College Work-Study Program. Jobs, offered as part of the package of financial assistance, and placements are handled by the Financial Aid Office.

Most grants awarded by the University are designated Jonas Clark Scholarships. Funds for these scholarships are derived from University income and from endowed funds as follows: (Because of the various restrictions placed on these funds, it is the policy of the University to select eligible recipients. Students should not apply directly.)

The Reginald Bryant Allen Fund
The Alumni Group Scholarship
The B'nai B'rith Scholarship
The Gertrude and William Brodie Award
The Charles W. and Annie L. Bruninghaus Fund
The Reina and Isidore Chaiklin Scholarship Fund
The Clark University Faculty Women's Club Scholarships
The Ruth and Loring Dodd Scholarship Fund
The Theodore T. and Mary E. Ellis Fund
The Albert C. Erickson Scholarship
The Leon E. Felton Memorial Scholarship Fund
The A.D. Ross Fraser Scholarship
The Julian S. Freeman memorial Scholarship Fund
The Aaron Fuchs Memorial Scholarship Fund
The Lillian and Selig Glick Scholarship Fund
The Paul S. Goldman Memorial Scholarship
The Wallace W. Greenwood Scholarship Fund
The Bertram L. and Bessie T. Handleman Fund
The Frank H. Hankins Scholarship

The High School Basketball Tournament Scholarship
The Lennard A. Hill ('57) Memorial Scholarship Fund
The Gertrude and Eva Hillman Scholarship
The Frances Tufts Hoar Fund
The Ruth G. Hodgkins Scholarship Fund
The Drs. Burton P. and Herbert H. Hoffner Endowed Scholarship Fund
The Frederic W. Howe Jr. Scholarship Fund
The Gordon A. Hubley Fund
The M. Hazel Hughes Scholarship
The George N. Jeppson Scholarship Fund
The Kappa Phi Scholarship Fund
The George F. Kneller Endowed Scholarship Fund
The Levi Knowlton Fund
The Dr. Edmund Randolph Laine Scholarship Fund
The David Ashley Leavitt Memorial Scholarship Fund
The Joseph Leavitt Scholarship Fund
The Dwight E. Lee Scholarship Fund
The Elizabeth T. Little Scholarship Fund for Women
The Homer Payson Little Scholarship in Geology
The Livermore and Ambulance Drivers Scholarship
The Robert H. Loomis Scholarship
The Nazareth Nanigian and Manasseh Nanigian Memorial Scholarship Fund
The National Council of Jewish Women Scholarship
The Alice Friend Newton Memorial Scholarship
The Norton Company Endowed Scholarship
The Abraham Persky Scholarship Fund
The Charles B. Randolph Fund
The Helen Brewster Randolph Memorial Scholarship
The Jennie L. Richardson Scholarship
The William Richardson Scholarship
The Elliott Stephan Sahagian ('67) Scholarship Fund
The Sanford Memorial Scholarship
The Samuel Schanberg Memorial Scholarship Fund
The Fredric T. Sewall Scholarship Fund
The Henry L. Signor Scholarship
The Abraham Solomon Scholarship Fund
The Harry D. and Anita Solomon Endowed Scholarship Fund
The Saul Reuben Stein Scholarship
The Russell S. Thompson ('18) Scholarship Fund
The Michael Thomas Tucker Memorial Scholarship Fund
The Undergraduate Scholarship Fund
The Benjamin R. and Grace F. Vandeford Student Aid Fund
The Whitman Scholarship
The Henry A. Willis Scholarship
The Harold C. Wingate Memorial Scholarship Fund

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Financial Aid Form (FAF) to the College Scholarship Service by February 15, and direct that a copy be forwarded to Clark University. It is anticipated that there will be a two-part Financial Aid Form for 1980–81; applicants must file both parts. The Financial Aid Form may be obtained from the secondary school guidance office. Offers of financial assistance will be made simultaneously with, but independent of, the decision of the Admissions Committee. All recipients are required to verify the information reported on the FAF by filing a copy of their parents' 1978 Federal income tax return. Early decision candidates should file an Early FAF by November 1. The form may be obtained from the Admissions Office.

Prospective transfer students who are requesting financial assistance should submit the FAF to the College Scholarship Service at the same time application is made for admission. Transfer students must submit a photo copy of their parents' 1978 Federal income tax return to the Financial Aid Office before an aid decision can be made. Award notification will be made concurrent with acceptance to the University, if possible; FAF processing takes approximately four weeks. Applicants will not be required to post an admission deposit before receiving a financial aid decision.

Upperclassmen must reapply annually for financial assistance by submitting an updated FAF to the College Scholarship Service by March 1. In addition, a copy of the parents' previous year's income tax form (Form 1040) must be filed with the Financial Aid Office by April 15. Assistance is renewed as long as the applicant continues to demonstrate financial need.

Any student interested in financial assistance should request a copy of the Clark University Financial Aid Brochure from the Admissions Office. The brochure contains all pertinent financial aid information including policies and procedures and the rights and responsibilities of aid applicants.

The Graduate School

General Information

Clark University was established in 1887 as the second graduate institution in America. Its faculty and graduates have endowed the University with an impressive record of accomplishments through the years. Under the administration of the Graduate Board, Clark offers programs leading to master's and doctor's degrees to qualified holders of a bachelor's degree or equivalent.

Master of arts degrees are offered in the fields of Biology, Biomedical Engineering (in cooperation with Worcester Polytechnic Institute), Chemical Physics, Chemistry, Comparative Literature, Criminal Justice, Economics, Education, English, Environmental Affairs, Geography, Government, History, International Development, Mathematics, Physics, and Psychology. The master of business administration degree is offered by the Department of Management. In addition, Clark offers a master of business administration degree in management, a master of public administration, a master of science in public health, and a master of arts in liberal arts degree.

Doctor of philosophy degrees are offered in Biology, the Biomedical Sciences (in cooperation with the Worcester Foundation for Experimental Biology and Worcester Polytechnic Institute), Chemistry, Chemical Physics, Economics, Geography, History, Mathematics, Physics, and Psychology. A doctor of education degree is offered by the Department of Education. Postdoctoral training is conducted in Geography, Psychology, and the sciences.

Departments that do not, at present, accept candidates for graduate degrees may offer courses suitable for inclusion in a program of graduate study.

Scholarships, fellowships, and assistantships are listed at the end of this section. Additional information concerning departments and their offerings will be found in the section entitled *Departments and Courses.*

INQUIRIES

Inquiries by students in American institutions concerning specific programs of graduate and postdoctoral work should be addressed to the chairman of the department concerned or to the relevant director of the program. Please check catalog section, *Departments and Courses,* for names of department chairmen and program directors. Inquiries by foreign students should be addressed to the dean of the Graduate School.

ADMISSION TO THE GRADUATE SCHOOL

Admission to the Graduate School may be granted *only* by the dean of the Graduate School acting for the Graduate Board on the recommendation of a department or program of the University. An official letter from the graduate dean is the formal notification procedure. Admission to the school does not imply admission to candidacy for a degree.

Application: A prospective applicant from an American institution should communicate with the appropriate department or program head. If encouraged to make an application, the applicant will be provided with an application form, which, accompanied by a $20 application fee, should be returned to the department or program. In addition, the applicant should arrange the forwarding of an official transcript of all undergraduate and any subsequent academic work and three letters of recommendation from persons who are competent to judge qualifications for graduate study.

Department or program heads may request the submission of additional material, and most require a record of attainment in the Graduate Record Examination given by the Educational Testing Service, Princeton, New Jersey. All applicants are urged to take, and to submit the results of, the Graduate Record Examination verbal, quantitative, and advanced tests.

A foreign student, if encouraged by the dean to make formal application, should provide a certified English translation of his or her official record (if not in English), evidence of English proficiency (TOEFL), at least two letters of recommendation, and a statement concerning the applicant's financial resources or agency support.

Applications for admission and for financial aid should be completed not later than February 15 if the applicant intends to begin studies the following September. Applications for admission may be submitted, however, throughout the year. Students applying for financial aid are required to fill out a Financial Aid Form before awards are made.

Application for admission as a *special status graduate student* (not in a degree program) should be made through the Registrar's Office.

Admission: Admission to the Graduate School is granted for entry only at a specified time and lapses if the student fails to enter at that time. Admission as a part-time graduate student may be granted to qualified applicants who cannot devote full time to study, upon recommendation of the department or program head.

If a student, when admitted, was a candidate for a degree elsewhere, he/she must arrange, upon receipt of that degree, to have a supplementary transcript, including a notation of the degree conferred, sent directly to the dean of the Graduate School.

MASTER OF ARTS

Residence: An academic year (eight semester-courses) of study in residence is a minimum requirement for a master's degree. Individual departments or programs may require longer periods of residency. Residence study is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

Foreign Language: Language or other special requirements are included in the department listings in this catalog.

Candidacy: Application for admission to candidacy for a master's degree must be filed with the dean of the Graduate School not later than the first week of the last full semester the student expects to spend in residence as a candidate for a degree. Forms are obtainable at the Registrar's Office.

Applications will be considered by the Graduate Board when the student has completed one semester of full-time graduate work or its equivalent in residence at the University and obtained the written endorsement of the major department or program.

Candidacy for the degree of master of arts is valid for four years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years on vote of the Graduate Board.

Course and Examination Requirements: Each student must complete at least eight semester-courses in a program approved by the department. One course may be a research course devoted to the preparation of the thesis. Credit for a maximum of two courses at another institution may be approved by the dean of the Graduate School upon recommendation of the department.

Each candidate must pass such written examinations as required by the major department and a final oral examination by a committee of three or more, one of whom must be a member of the Graduate Board.

Thesis: The thesis is written on a topic in the field of the student's special interest under the supervision of a member of the department and in a style, length, and format that is appropriate to the problem being researched. The ribbon copy of the thesis, a precis approved by the supervising instructor, and an academic history must be deposited in the Registrar's Office not later than three weeks before the date of the commencement at which the degree is to be conferred. At least one additional copy of the thesis and the precis must be delivered to the major department, which may require more than one copy. The precis may not exceed 75 words. The title page, precis, and academic history forms are obtainable from the Registrar's Office. The ribbon copy of the thesis must be typed as prescribed in "The Master's Thesis." These instructions are available at the Registrar's Office.

The thesis is deposited by the Registrar in the University library. The precis is printed in an annual publication, *Dissertations and Theses.*

Diploma Fee: This fee for the master of arts degree is $25. It covers the cost of the diploma, publication of the precis in *Dissertations and Theses,* and binding of the library copy. It is payable when the thesis is deposited with the Registrar. Students who do not write a thesis, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Alternative Program: A candidate for the degree of master of arts may be recommended for the degree without a thesis after passing the preliminary doctoral examination.

Nonresident Students: Continuing students who are not in residence at Clark are required to pay a nonresident fee of $100 per semester.

MASTER OF ARTS IN EDUCATION

The residency, candidacy, course, examination, and diploma fee requirements are the same as those listed for the degree of master of arts.

Thesis: Students may choose one of three options, subject to the approval of the Department of Education. They may choose to: (1) prepare a thesis as required for the M.A. degree; (2) elect two additional subject-matter courses; or (3) elect a research seminar in which papers are prepared and presented to fellow students and staff.

Further information concerning the degree of master of arts in education may be found under the Department of Education

MASTER OF ARTS IN CRIMINAL JUSTICE

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF BUSINESS ADMINISTRATION

This degree is offered through the Department of Management. For further information, see listings under the Department of Management.

MASTER OF LIBERAL ARTS

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF HEALTH ADMINISTRATION

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF SCIENCE IN PUBLIC HEALTH

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF PUBLIC ADMINISTRATION

For further information, contact the College of Professional and Continuing Education, Clark University.

DOCTOR OF EDUCATION

The program leading to the doctor of education emphasizes human development and learning as it relates to curriculum, instruction, and evaluation, and in the sociology of education. The requirements for this degree closely parallel those for the degree of doctor of philosophy (see below). See catalog section on Department of Education for further information.

DOCTOR OF PHILOSOPHY

Only well-qualified candidates with proven ability in their special fields of study will be encouraged to proceed to the degree of doctor of philosophy.

Residence: The minimum requirement is one year of full-time study (eight semester-courses beyond the M.A.) or its equivalent in part-time work, in residence.

If the degree of master of arts has been earned at Clark, this requirement is in addition to the residence requirement for that degree.

Foreign Language: Each graduate department sets its own language or related requirements as the student's field of research may demand and must report such requirements in each case to the dean of the Graduate School. If a language is required, either the Educational Testing Service Foreign Language Tests or on-campus testing are employed at the discretion of the department.

Preliminary Examination: Upon completion of preparation in the fields of study, a prospective candidate takes a preliminary examination set by the major department. This examination may be written or oral, or a combination of both. The chairman of the department may invite other scholars from within or outside the University to participate in the examination.

Candidacy: An application for admission to candidacy should be filed when the applicant has: (1) completed two full academic years of graduate work or its equivalent in part-time work, including one year at Clark University, (2) completed the departmental requirements in a foreign language, (3) passed a preliminary examination in the chosen field of study, (4) obtained the written endorsement of the major department. Application forms are obtainable at the Registrar's Office.

Candidacy for the degree of doctor of philosophy is valid for three years after admission to candidacy. For satisfactory reasons, candidacy may be extended once for an additional period of three years by vote of the Graduate Board.

Dissertation: A dissertation, which is expected to make an original contribution to a special field of knowledge, is required of each candidate. The dissertation, approved by the chief instructor or dissertation committee, is laid before the examining committee at the final oral examination.

An abstract of the dissertation, not exceeding 600 words, and a precis, not exceeding 75 words, both approved by the instructor or committees under whom they were written, are also required.

Four weeks before the degree is to be conferred, the ribbon copy of the dissertation, together with two official title pages, an academic history, the ribbon copy of the abstract and of the precis, each in a form prescribed, must be delivered to the registrar. At the same time, one or more copies of the dissertation and of the abstract may be required by the major department. The title pages, precis, and academic history forms are obtainable at the Registrar's Office. The ribbon copy of the dissertation must be typed as prescribed in "The Doctoral Dissertation" and "Suggestions for the Preparation of Doctoral Dissertations for Microfilming." These instructions are available at the Registrar's Office.

The Registrar deposits the dissertation and the abstract in the University library where they remain permanently. A microfilm copy of each dissertation is made by University Microfilms, Inc., of Ann Arbor, Mich. and is available for duplication by them on request. The abstract is printed in *Dissertation Abstracts;* the precis is printed in an annual publication, *Dissertations and Theses.*

Articles published in refereed journals may be accepted in lieu of a dissertation.

Final Examination: The final examination is oral and lasts for at least two hours. Additional written examinations may be given if the major department so directs. The candidate is expected to defend the dissertation and, at the discretion of the examining committee, may be questioned on the entire special field of study. The oral examination is conducted by a committee of at least four members, composed of at least one member of the Graduate Board and such members of the department and nonmembers from within or outside the University as the chairman may appoint. The chairman notifies the dean of the Graduate School, at least one week in advance, of the time and place of the examination and the composition of the committee. The dean is authorized to invite any person from within or outside the University to be present and to assist in the examination.

Diploma Fee: This fee for the doctor of philosophy degree is $85. It covers the cost of the diploma, hood, publication of the precis in the publication *Dissertations and Theses,* publication of the abstract in *Dissertation Abstracts,* and binding of the library copy of the dissertation. It is payable when the dissertation is deposited with the Registrar.

Nonresident Students: Continuing students who are not in residence at Clark are required to pay a nonresident fee of $100 per semester.

POSTDOCTORAL STUDY

Postdoctoral students are classified in three categories: *Honorary Fellows,* visitors for varying lengths of time, always more than a few days, who wish to observe activities of a department, to study or to carry on research but without formal teaching duties or support by the University; *Research Associates,* who work full time with designated members of the University staff on research projects, normally supported by grants, without formal teaching duties but with some responsibility for directing laboratory assistants; and *Trainees,* who enroll in a formally offered postdoctoral training program.

The Honorary Fellow and Research Associates enjoy faculty status, although the extent to which faculty privileges may be granted may be restricted by availability of space and other resources.

FINANCIAL ASSISTANCE

All applicants for admission who request financial assistance are required to file a Student Financial Statement with the College Scholarship Service as part of their application. This form, along with specific instructions, should be requested by contacting the applicant's prospective department or program. Financial aid is not necessarily based on an evaluation of the student's need. However, a portion of the assistance offered may be in the form of National Direct Student Loans or College Work-Study employment. Both of these Federal programs require that a student demonstrate financial need by completing the Student Financial Statement.

GRADUATE SCHOLARSHIPS, FELLOWSHIPS AND ASSISTANTSHIPS

Graduate fellowships and scholarships are provided for well-qualified students by the University from endowed funds and from other sources. Financial aid to graduate students also is available in the form of grants from a number of special funds and, in some departments, from sponsored research grants. A limited amount of part-time employment is available in the various offices and departments of the University. Students who receive awards must obtain permission from the department before accepting employment.

Application for a scholarship or fellowship to begin in September should be made before February 15 to the chairman of the department or director of the program in which the applicant expects to do major work. Late applications, after endorsement by the department, go to the dean of the Graduate School for final approval.

RESEARCH FELLOWSHIPS

These fellowships may be awarded to graduate students who have fulfilled their residence requirements and who are pursuing a full-time doctoral program on campus.

TEACHING ASSISTANTSHIPS

There are three categories for Teaching Assistantship appointments:

1. *Part-time Lecturer*—a nonprobationary, part-time faculty position that does not lead to consideration for tenure or faculty fringe benefits (TIAA, vacation, etc.). The student is responsible for one or two small classes and should have considerable independence over all aspects of teaching and grading. The student will be under the general supervision and direction of a

faculty member.

This category is reserved for the advanced student who has manifested, clearly, skill in teaching and is qualified and experienced in the subject to be taught. The student should be accorded as many faculty privileges as possible, *e.g.*, attending department meetings and having office space. Stipend for this position is $3,000-$3,600 for nine months.

2. *Teaching Apprentice*—students with prior teaching experience, either as an undergraduate or as a graduate assistant. Responsibilities include conducting discussion sections for a course, supervising laboratory sections, running tutorial sessions, grading papers and projects, and discussing these with the undergraduate students.

The student in this category should be under the direction of a professor who would assume responsibility for the student's training as a teacher. Stipend for this category is $3,000–$3,200 for nine months.

3. *Teaching Assistant*—students with little or no teaching experience. Responsibilities include tasks that allow assistants to observe experienced teaching assistants or instructors and learn their pedagogical methods. Duties are assigned on a job basis and may include assisting other senior TAs, setting up and tearing down laboratory equipment, and doing a variety of other tasks associated with teaching a course or section.

The assistant may grade examinations only if a part of a general grading team of assistants or under the direct supervision of a senior TA or instructor. Stipend for this category is $2,800–$3,200 for nine months.

The time commitment for each category is approximately half time. Tuition will be remitted on all three categories. The number of hours of study an assistant at any level takes in addition to teaching responsibilities should be decided by the department chairman with overall supervision from the dean of the Graduate School. The Internal Revenue ruling, which states that payment for teaching is nontaxable provided it is a requirement for an advanced degree, is still in effect, but with some detailed provisions. We have been informed that some cases at other schools have been questioned. If a student chooses to have tax withheld, he/she is usually entitled to a tax refund when filing with the Internal Revenue Service.

Note that the Departments of Biology, Chemistry, Economics, Geography, Government, History, Mathematics, Physics, and Psychology require teaching experience for graduate degrees.

ASSISTANTSHIPS

Assistantships are available in several departments. Assistantships involve a variety of services including research with appropriate stipends and usually provide the student with experience which will be useful in later professional work.

GRADUATE FELLOWSHIP AND SCHOLARSHIP FUNDS

Stipends for fellowships and scholarships are provided by:

The Alumni Association Fund, provided by alumni who hold the degree of doctor of philosophy to benefit students studying for that degree.

The George S. Barton Fund, a bequest from the Honorable George S. Barton of Worcester, to be used for the benefit of native-born citizens of Worcester.

The Elnora W. Curtis Fund, a bequest from Dr. Elnora W. Curtis (A.M. 1908, Ph.D. 1910) for the benefit of graduate students.

The Eliza D. Dodge Fund, to be granted to graduate students of limited means who are engaged in research work.

The Henry Donaldson Jordon Award in History, for high standard of scholastic achievement and qualities of character which will be valuable in the training of teachers.

The Joseph F. Donnelly Memorial Fund, a bequest from Lucretia F. Donnelly to help men who are enrolled in a course leading to the degree of doctor of philosophy.

The John White Field Fund, established by Mrs. Eliza W. Field to provide for the minor needs of a scholar or fellow.

The Austin S. Garver Fund, a bequest from Austin S. Garver, member of the Board of Trustees from 1908 to 1918.

Graduate School Scholarship Fund, a bequest from Alexander H. Bullock, a member of the Board of Trustees from 1926 to 1946 and president of the Board from 1938 to 1946.

The George Frisbie Hoar Fund, the gift of Andrew Carnegie in honor of the second president of the University's Board of Trustees.

The Myers Fund, a gift of George E. Myers (Ph.D., 1906) to assist graduate students to do research in education and psychology.

The David J. Ott Scholarship, the scholarship designed to support a qualified student towards the Ph.D. degree in economics. The successful candidate is assured support (tuition plus stipend) for three years at Clark.

The Charles H. Thurber Fund, provided by Charles H. Thurber, member of the Board of Trustees from 1913 to 1938 and president of the Board from 1919 to 1937.

GRADUATE LOANS

Loans, bearing interest at three percent per year after completion of residency, are available on a limited basis for full-time graduate students upon registration. Applications are available at the Graduate School Office.

Federal funds are available for graduate students at Clark University in the form of National Direct Student Loans. The maximum amount a student may borrow in any one academic year is $2,500. The total amount a student may borrow as an undergraduate and graduate is $10,000.

The National Direct Student Loan Program provides funds for long-term loans which bear no interest until a student has completed full-time study. Normally a person borrowing from these funds will repay the amount over a period of ten years. National Direct Student Loans are granted on the basis of financial need and available funds. All National Direct Student Loan commitments are made contingent on congressional appropriation of funds annually for this program.

Contact Director of Financial Aid, for further information on the National Direct Student Loan Program.

LOAN FUNDS

The Mary S. Rogers Scholarship and Loan Fund, established in 1926 for the benefit of students in the Graduate School.

The Mary M. Thurber Fund, established by the late Dr. Charles L. Thurber, former president of the University Board of Trustees, as a memorial to his mother.

The United States Steel Foundation Fund, established primarily for American citizens studying in the areas of Psychology, Geography, Economics, Biology, and Chemistry.

For loans from these and other sources that may become available, application should be made at the Graduate School Office.

DEPARTMENTAL FUNDS

The Wallace W. Atwood Research Fund. The income from this fund may be used at the discretion of the staff in the Graduate School of Geography for the promotion of field studies in Geography by any member of the staff, or any one of the alumni holding a graduate degree from the Graduate School of Geography, or for the publication of results of such research work.

The Chester Bland Fund. The income from this fund preferably is used to provide aid to a promising student, either in residence or engaged in research elsewhere under the direction of the Department of History. It also may be used to defray the expense of visiting lecturers or of departmental research.

The Wallace W. Greenwood Fund. The income only is to be divided between the Departments of Physics and Chemistry and to be used for any purpose within the scope of these two departments.

The Morton L. "Sonny" Lavine Foundation is a memorial to Lieutenant Lavine of the United States Army, World War II. The income is to be used for the promotion of research in the Department of History.

The Libbey Fund, bequeathed to the University by Mary E. Libbey, is to establish a fellowship in Physical Geography and to aid the department in that field.

GRADUATE ACADEMIC REGULATIONS

GRADING

The grades of A and B (with plus and minus) are acceptable for graduate credit; anything lower than a B– is not acceptable. A 'P' (pass) signifies that the student has performed at a B– or above level. Incompletes are awarded at the discretion of the instructor.

HOUSING AND BOARD

Off-campus rooms and apartments for both men and women are available in the immediate area of the University, and University accommodations may be available. For information concerning off-campus accommodation, contact the Office of Buildings and Grounds, which keeps a bulletin board of available off-campus rooms and apartments. For on-campus accommodation, contact the Office of the Dean of Students. The Graduate School Office also will assist students in finding housing. Students should plan to arrive a few days before registration to arrange for housing because of the limited number of suitable off-campus apartments in the immediate area.

Graduate students are invited to take meals in the University dining halls under one of the food plans available. The Snack Bar also is available for single meals.

HEALTH SERVICE AND INSURANCE

A low-cost insurance plan covering ordinary medical expenses and limited maternity benefits for married students is available through the University. Unless a student is protected by similar insurance, he/she must enroll in this plan, since all graduate students must be covered by Health and Accident Insurance. Students are not automatically covered by this insurance but must apply for it through the Graduate School Office where applications are available. Blue Cross-Blue Shield will be offered as an alternate insurance plan.

Graduate students are entitled to use of the University Health Service for minor first-aid needs.

Graduate Tuition and Other Charges

Tuition and nonresident fees are due and payable within 30 days of date of issuance of invoice. Accounts 30 days or more past due are assessed interest at the rate of 1 percent per month (annual rate 12 percent). Identification cards are provided each year of residence. A late registration fee of $25 is charged if registration is not completed by the end of the first week of the semester. Candidates who are not in residence must pay the nonresident fee until the requirements for the degree are fulfilled; nonpayment automatically will terminate candidacy.

SCHEDULE OF TUITION AND OTHER CHARGES

TUITION

Full-time graduate students are charged tuition of $2,325 per semester. The per course charge varies according to the department in question and its specific definition of a full program (i.e., in departments that define a full load as four courses per semester, the per-course charge is $581.25). Students should contact their department chairmen to find out which scale applies.

Part-time degree candidates are charged tuition per course according to the scale used by the department in which they are registered.

Special graduate students (nondegree candidates) are charged $581.25 per course.

Other Fees—payable at registration:

Health Fee (optional)	$ 75
Health and Accident Insurance (mandatory)	
Single Students	$104
Married Student and Spouse	$246
Family Plan	$314

Diploma Fee—payable at the time the thesis or dissertation is deposited with the Registrar.**

Master's Degrees	$25
Doctor of Philosophy Degrees	$85
Doctor of Education Degrees	$85

**Students who do not write a thesis or dissertation, including those receiving the degree through the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Nonresident Candidate Fees—payable on November 1 and March 1. If the thesis or dissertation is deposited with the registrar before either date, no fee is charged for the semester. The fees double upon renewal of candidacy.

Master's Candidates	$100
Doctoral Candidates	$100

Inquiries concerning tuition and fees for the master of business administration program should be made directly to the Department of Management, Clark University.

Inquiries concerning tuition and fees for the following programs should be made to the College of Professional and Continuing Education, Clark University: master of arts in criminal justice, master of health administration, master of public administration, master of arts in liberal arts, and the master of science in public health.

REFUND

A student who officially withdraws in writing during the first two weeks of any semester is allowed a refund of 60 percent of tuition; during the third week, 40 percent; during the fourth week, 20 percent; after the fourth week, there is no refund. There is no refund on other charges, except board, when a student withdraws from the University.

Departments and Courses

American Studies

PARTICIPATING FACULTY

Douglas L. Johnson, Ph.D., Acting Program Director (1979–80), Associate Professor of Geography

Ronald P. Formisano, Ph.D., Program Director, Associate Professor of American History*

Martyn J. Bowden, Ph.D., Professor of Geography

John J. Conron, Ph.D., Assistant Professor of English

James F. Beard Jr., Ph.D., Professor of English

Robert N. Beck, Ph.D., Professor of Philosophy

George A. Billias, Ph.D., Professor of History

Morris H. Cohen, Ph.D., Professor of Government

Albert A. Anderson, Ph.D., Associate Professor of Philosophy

James P. Elliott, Ph.D., Associate Professor of English

Anthony W. Hodgkinson, Associate Professor of Screen Studies, Chairman of Screen Studies Program

William A. Koelsch, Ph.D., Associate Professor of Geography and History

Sharon Krefetz, Ph.D., Associate Professor of Government and International Relations

Bonnie Lee Grad, Ph.D., Assistant Professor of Art History

Robert J. Ross, Ph.D., Assistant Professor of Sociology

**On leave 1979–80*

AMERICAN STUDIES CONCENTRATION

At present, American Studies at Clark is neither a department nor a major but a *concentration* of seven required courses designed both as an extension of traditional majors and as a coherent undertaking in itself.

The American Studies concentration offers an interdisciplinary approach to the study of those human values that define American culture and variously manifest themselves in physical, social, and intellectual environments—in events, in institutions, and in the arts (primarily literature, painting, film, and architecture). The concentration has two aims: One is to enable students to analyze closely a variety of 'texts' (a group of people, a house, a poem) and to place these in a cultural 'context,' which brings them into relation with each other. The other is to enable students to arrive at an understanding of American culture as a pattern of values, which permeates American space and changes over time.

Since American Studies is not in itself a discipline but rather a conversation between disciplines, the concentration is based on a conviction that the basis of this conversation is fluency in—or at least acquaintance with—traditional disciplines in the humanities and the social sciences. Students are therefore expected to augment their major discipline with introductory work in two other disciplines. They are further expected to integrate and focus their study of American culture in the program offerings. Finally, they will be encouraged to study, beyond the introductory level, things of interest in the more than 30 courses on American subjects offered at Clark and at affiliated institutions.

The requirements of the concentration:

1) Students are required to take three core courses: Introduction to History and American Studies; American Culture and Society, 1820–1860; and American Thought and Culture Since 1860.
2) Students are required to take four courses in either an American history/literature or an American history/geography sequence. Students interested in the American history/literature sequence would elect two of following history courses: 200, 201, 202, 206, 208, 209, 219, or 221; and both semesters of English 101. Students interested in the American history/geography sequence would include any two of the history courses listed above and two of the following geography courses: 252, 253, 255, or 272.

AMERICAN STUDIES ELECTIVES

More than 30 courses in American subjects are taught at Clark and affiliated institutions. A list of these courses is available in the History and English Departments.

COURSES

INTRODUCTION TO HISTORY AND AMERICAN STUDIES

This course is an introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. Offered for credit as English 110 and History 110.

Semester 1 — Mr. Ford

AMERICAN CULTURE AND SOCIETY, 1820-1860

This course is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention will be paid to the cultural geography, the arts (primarily literature and painting), and to some significant political and social issues of the period. Some of the germinal works in American studies (Leo Marx's *The Machine in the Garden* and R.W.B. Lewis's *The American Adam,* for example) will be read to provide contexts for the study of representative cultural and social expressions of the period. The course will include field trips. Offered for credit as History 240, and English 240.

Semester 1 — Mr. Conron, Staff

AMERICAN THOUGHT AND CULTURE SINCE 1860

The course examines selected cultural patterns and themes in American thought from the Civil War onward. Readings and discussions draw on

multiple disciplinary perspectives. Offered for credit as History 241, English 241, and Geography 241.
Semester 2 Mr. Conron, Staff

Art

See Department of Visual and Performing Arts.

Astronomy

PROGRAM FACULTY

Roy S. Andersen, Ph.D., Professor of Physics, Program Chair

UNDERGRADUATE PROGRAM

Two courses are available at the introductory level. Advanced topics directly relating to astronomy are listed under Physics. Students interested in advanced work in astronomy should consult with the instructor or the physics undergraduate adviser.

COURSES

1 EXPLORING THE UNIVERSE

This course is explicitly designed for the non-science major who wishes to learn about the stars. It is also intended to provide for the interests of the student who seeks an acquaintance with the concepts and methods of science but who does not wish to go into the depth of the typical introductory science survey course. Topics considered are interdisciplinary in character since astronomy involves physics, chemistry, biology, and geology. The use of mathematics is minimized; only simple algebra is utilized. Half of the course is devoted to consideration of the planets and the sun. In the other half of the course, the stars, their life cycles, and the galaxies are studied. Theories of the composition and origin of the solar system, of the universe, and of life are explored. The heavens are best understood by having students make direct observations of celestial objects. Emphasis is, therefore, placed on the making, analyzing, and reporting of observations on the moon, sun, planets, meteors, stars, variable stars, nebulas, and galaxies. Students make these observations using telescopes in the University observatory as well as on several night field trips.
Semester 1 Mr. Andersen

2 BLACK HOLES AND COSMOLOGY

This course also is designed for the non-science major who wishes to explore in greater depth the nature of the universe. Following a review of the composition of the universe, consideration will be given to the properties of space and time. These will lead to the formulation of a general description of the universe. From this will come the prediction of the existence of black holes. The various cosmological theories will be examined in detail, along with supporting or refuting evidence obtained through optical, radio, and X-ray astronomy. Illustrative exercises will be employed. Offered in alternate years. Prerequisite: Astronomy 1, or permission of instructor.
Not offered 1979–80 Mr. Andersen

Biochemistry

PROGRAM FACULTY

John J. Brink, Ph.D., Professor of Biochemistry, Adjunct in Chemistry
Donald J. Nelson, Ph.D., Associate Professor of Chemistry, Adjunct in Biology
George E. Wright, Ph.D., Associate Professor of Chemistry (Affiliate)

PROGRAM

The Biochemistry program at Clark is designed to serve three types of students with a basic interest in the health related sciences: 1) students wishing to enter the field of biomedical laboratory technology upon completion of their undergraduate degree, 2) students wishing to pursue graduate studies in the biomedical sciences, and 3) students wishing to enter medical school with a strong instrumental and biophysical background. Because of the highly specialized nature of the program, students may only be formally admitted after successful completion of Organic Chemistry (Chem 130 or 132). Admission is contingent upon the approval of the Biochemistry Advisory Committee (composed of all participating faculty members) and the permission of a faculty research adviser.

PROGRAM REQUIREMENTS

The basic requirements for the Biochemistry major are: one course in Mathematics beyond Math 11, two semesters of Introductory Physics (Physics 11 or 12) plus laboratory and three nonscience courses, of which one must be beyond the introductory level. The program requirements from within the Biology Department's curriculum are: two semesters of Introduction to Biology (Biology 100), one semester of either Genetics (Biology 118) or Microbiology (Biology 109) and one semester of either Cellular Biology (Biology 137) or General Animal Physiology (Biology 240). The requirements from within the Chemistry Department are: two semesters of Introductory Chemistry (Chemistry 100 or 102), two semesters of Organic Chemistry (Chemistry 130 or 132) and one semester of Physical Chemistry I (Chemistry 160). Following is a list of required Biochemistry courses:

Bioanalytical Chemistry (Biochemistry 144)
Biophysical Chemistry (Biochemistry 164)
Biochemistry (Biochemistry 270)
Biochemistry Research (Biochemistry 214)
Biochemistry Honors Course (Biochemistry 215)

In addition, students must complete one additional course from the biochemical sciences, such as:

Nutrition (Biology 170)
Protein Chemistry (Biochemistry 272)
Neurochemistry (Biochemistry 273)
Pharmacology (Biochemistry 278)

THE CAPSTONE EXPERIENCE

The culmination of the student's undergraduate Biochemistry experience (the capstone experience) is the senior Research Project. The merging of learned theoretical biochemical concepts and acquired practical skills takes place in this exposure to semi-independent biochemical research.

144 BIOANALYTICAL CHEMISTRY

Refer to course description under Chemistry 144.
Semester 2 Mr. Nelson, Mr. Jones, Mr. Brink

164 BIOPHYSICAL CHEMISTRY

This rigorous course in physical chemistry, offered as an alternative to Chemistry 162, emphasizes the physical chemistry of biological systems: enzyme kinetics, spectroscopy of biological systems, macromolecules, transport processes, and X-ray diffraction. Prerequisite: Chemistry 160. Three lectures and one four-hour laboratory per week. Offered in alternate years. Also listed for credit as Chemistry 164.
Semester 2 Mr. Nelson

214 SPECIAL PROJECTS

Individual investigations involving laboratory and/or literature research. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

215 HONORS COURSE

The honors course, primarily for majors seeking departmental honors in Biochemistry, involves a laboratory research project and participation in departmental seminars. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

270a and b BIOCHEMISTRY

This is a two-semester course in which the option of taking only the first semester is available to those students not intending to do advanced studies in Biochemistry. The course will consider the basic principles and mechanisms of biochemical reactions in metabolic transformations of cell nutrients. The regulation of these processes by enzymes, genes, and hormones will be considered in the light of modern theories of biochemical processes. A laboratory component for the first semester will acquaint students with methods and instrumentation of biochemical research such as radioisotope techniques. The second semester will cover advanced topics in Biochemistry. Prerequisite: Chemistry 130. Three lectures and one lab per week. Also listed for credit as Biology 270a and b and Chemistry 270a and b.
Semesters 1, 2 Mr. Brink, Mr. Nelson

271 BIOCHEMISTRY OF NUCLEIC ACIDS

Refer to course description under Biology 271.
Mr. Brink

272 PROTEIN CHEMISTRY

This lecture course discusses the structure and function of biologically important macromolecules. Particular emphasis is placed on proteins (enzymes and noncatalytic proteins), protein synthesis from nucleic acids, and the structure and function of biological membranes. Prerequisite: Chemistry 130. Offered in alternate years. Also listed for credit as Chemistry 272. (Formerly Chemistry 270.)
Semester 2 Mr. Nelson

273 NEUROCHEMISTRY
Refer to course description under Biology 273.
Semester 2 Mr. Brink

278 PRINCIPLES OF PHARMACOLOGY
Refer to course description under Biology 278. Also listed for credit as Chemistry 278. (Formerly Biology 268 and Chemistry 268.)
Not offered 1979–80 Mr. Brink, Mr. Nelson

Biology

DEPARTMENT FACULTY

Vernon Ahmadjian, Ph.D., Professor of Botany, Chair
John J. Brink, Ph.D., Professor of Biochemistry***
Joseph C. Curtis, Ph.D., Professor of Zoology
Rudolph F. Nunnemacher, Ph.D., Professor of Zoology
John T. Reynolds, Ph.D., M.P.H., Professor of Microbiology
H. William Johansen, Ph.D., Associate Professor of Botany
Timothy A. Lyerla, Ph.D., Associate Professor of Developmental Genetics
Nicholas S. Thompson, Ph.D., Associate Professor of Psychology and Ethology
Margaret Comer, Ph.D., Assistant Professor of Biology
Samuel E. Johnson, Ph.D., Assistant Professor of Zoology
Dennis Meiss, Ph.D., Assistant Professor of Physiology
Donald J. Nelson, Ph.D., Assistant Professor of Chemistry, Adjunct Assistant Professor of Biology
Monica Tsang, Ph.D., Research Assistant Professor of Microbiology
Affiliated Staff
Warren Litsky, Ph.D., Professor of Microbiology
Ronald B. Luftig, Ph.D., Professor of Biology
Leonard J. Morse, M.D., Professor of Microbiology
Jinnque Rho, Ph.D., Assistant Professor of Microbiology
Harris Rosenkrantz, Ph.D., Professor of Biochemistry

***On leave Semester 2, 1979–80

UNDERGRADUATE PROGRAM

The Biology Department views as its primary roles for undergraduate education within the University: to train biologists in a preprofessional sense, for those individuals entering careers that use the biological sciences as their bases; to provide support for other programs in the University that require some exposure to biology for their fulfillment; and to integrate the paradigm of the biological sciences into a liberal arts curriculum. Its goals for its majors relate directly to the development of an independent or autonomous learner, particularly since this development is required for anyone who is to remain current with the ever increasing body of knowledge in this field. With respect to its undergraduate majors then, thedepartment attemets:

1. to provide an updated, coherent statement of the field—a curriculum organized to reflect the inherent organization of tee discipline
2. to familiarize the student with the process by which biological information is acquired by exposing particularly the interrelationships between experiment and theory

3. to develop a critical facility in its students, an ability to judge quality work within this field.

The major in Biology is suitable for those intending to apply for graduate studies in Biology, Medicine, Dentistry, etc. Courses in the major must be taken for the letter grades, unless otherwise specified.

A departmental major must take eight courses in Biology of which six must be courses more advanced than the introductory course. However, only two of the six courses may be in directed research, directed readings, or an intership. The "Introductory Biology Year-course" will be prequisite for all other courses in Biology, but students must fulfill prescribed prerequisites for specific courses.

A Biology major must take, in related fields, a year of general Chemistry, a year of introductory Physics, and at least one additional year course in Chemistry, Physics, or Geology including in each case the laboratory for a total of six semester or three year courses. Additionally, the major in Biology must take a full year of calculus. None of the aforementioned courses may be taken on a "pass-no-record" option.

At least nine courses of a major's program must be taken from courses outside the fields of Biology, Chemistry, Geology, Mathematics, Physics and must not include any of the courses specified in the preceding paragraphs.

Effective for Biology majors entering Clark University in September 1979, each student will be required to take at least one course from each of the following four groups: (1) Invertebrate Zoology, Comparative Anatomy, Embryology; (2) Introductory Botany, Microbiology; (3) Cellular Biology, Animal Physiology, Biochemistry; (4) Genetics, Ecology, Animal Behavior. Since Animal Physiology and Biochemistry have prerequisites of Introductory Chemistry and Organic Chemistry, respectively, these courses most likely would be taken during the junior and senior years.

The department urges all potential majors to select and to consult with an adviser to obtain the maximum benefits the department has to offer.

HONORS PROGRAM

An honors program is available to especially well-qualified majors and requires the student to engage in an independent research project during the senior year together with meeting other departmental requirements, i.e., a broad distribution of courses, quality grades, and an honors thesis and examination. Frequently, the honors project is the continuation of research begun during the summer.

Specific criteria for admission to the honors program are available in the departmental office.

GRADUATE PROGRAM

The department offers courses leading to master of arts and doctor of philosophy degrees in specialized phases of bacteriology, biochemistry, botany, cytology, embryology, genetics, marine biology, physiology, and zoology. Admission to the graduate program assumes adequate preparation in the basic sciences, an overall undergraduate record of B or better, and satisfactory standing in the Graduate Record Examination. Tuition scholarships and teaching assistantships are available. Detailed information can be obtained from the department chairman.

MASTER OF ARTS

The program usually requires three or four semesters of academic work and include teaching experience and research culminating in an acceptable thesis.

DOCTOR OF PHILOSOPHY

The requirements, identical with those of the University, can be found in the catalog section on the Graduate School and include teaching experience. The student's program is planned according to his/her needs with his/her program director.

COURSES

100 INTRODUCTION TO BIOLOGY

The introductory course in Biology is designed with three goals in mind: (1) to provide students with an understanding of the unifying principles in Biology; (2) to introduce students to the diversity of plant and animal life, both at the cellular and organismic level, showing how this diversity is expressed through adaptations in form and function; and (3) to expose the student to methods and modes of scientific inquiry in the biological sciences. Introduction to Biology serves as a prerequisite for all other courses in Biology. Three lectures and one laboratory per week. Indivisible course. (Formerly Biology 108.)

Semesters 1 and 2 — Staff

101 PALEO-ZOOLOGY

This is an interdepartmental course in Geology and Biology combining a systematic survey of the morphology, taxonomy, and geologic history of groups of animals commonly found as fossils with their evolution to present-day forms. Three lectures and one laboratory period each week including field trips.

Semester 2 — Mr. Nunnemacher

104 PLANTS AND MAN

This is a course exploring the plants and plant products that have helped shape the development of man. Included will be cereal crops, forests and forest products, beneficial and harmful fungi, selective breeding of useful plants, historical aspects of agriculture, useful and destructive acquatic plants, noncereal food plants, drugs and medicinal plants, and future food supplies. Not for Biology major credit.

Not offered 1979–80 — Mr. Johansen

105 BIOLOGY AND MAN

This is an introductory course intended for those who do not plan to major in Biology. The course surveys the animal kingdom and emphasizes the relationships of various animals to man. Man is considered the example of an animal's solution to problems of metabolism, irritability, and reproduction. As far as possible, man's relation to current biological problems of ecology, etc. will be discussed. Not for Biology major credit.

Semester 2 — Mr. Nunnemacher

107 MARINE ECOLOGY OF BERMUDA

This is a 10-day field study at the Bermuda Biological Station. Not offered for credit.

Modular Term — Mr. Nunnemacher

109 MICROBIOLOGY

This is a survey of the protists (with emphasis on the bacteria), their activities and the methods by which they are studied. Three lectures and three hours of laboratory work per week (limited to 40 students). Also listed for credit as Environmental Affairs 109.

Semester 1 Mr. Reynolds

110 INTRODUCTION TO BOTANY

The diversity and scope of plants will be considered from an evolutionary viewpoint. Included will be the structure and function of algae, fungi, and vascular plants. The role of plants in various ecosystems will also be treated, as will their positive and negative relationships to man. Three lectures and one laboratory per week.

Semester 1 Mr. Ahmadjian, Mr. Johansen

112 COMPARATIVE ANATOMY

This is a comparative study of the morphology of the vertebrates with emphasis on the evolution of animals from fish to man. Prerequisite: 100. Two lectures and two laboratory periods per week.

Semester 1 Mr. Nunnemacher

113 BIOLOGY OF LOWER PLANTS

Representative examples of the major groups of algae and fungi are studied with emphasis on their structure, interrelationships, and adaptation to their environment. Prerequisite: 110 or permission of instructor. Two two-hour lecture-laboratory periods per week.

Not offered 1979–80 Mr. Johansen

115 FLOWERING PLANTS

This course is an introduction to the classification, evolution, ecology, and economic importance of flowering plants, with emphasis on the New England flora. Ferns, fern-allies, and gymnosperms will also be included. Short field trips will be made to nearby areas for examination of the spring flora. Two two-hour lecture laboratory periods per week.

Semester 2 Mr. Ahmadjian

117 PRINCIPLES OF ECOLOGY

This is a course in basic ecological theory governing organism-environment interrelationships. Population dynamics, energy flow, zoo-geography, community ecology, as well as ecological methods, and environmental problems will be included. Three lectures per week.

Semester 1 Mr. Johnson

118 GENETICS

This is a course in the principles and problems of genetics. Topics covered include Mendelian genetics, the molecular nature and function of the gene, gene and chromosome mutation, genetic mapping in bacterio-phages, bacteria, fungi, and higher organisms, and population genetics. Prior exposure to freshman Chemistry is recommended.

Semester 1 Mr. Lyerla
Semester 2 Ms. Comer

120 HISTOLOGY

The microscopic anatomy of tissues and organs of mammals will be studied. Prerequisite: 112. Two lectures and two laboratory periods per week.

Semester 2 Mr. Nunnemacher

137 CELLULAR BIOLOGY

The cell as a structural and functional unit will be studied. Introduction to the physiochemical properties and metabolic roles of molecules and macromolecules of cellular origin. Discussion of the roles of the nucleus and cytoplasm in the regulation of cellular processes. Three lectures per week. Prerequisite: 100 or permission of instructor.

Semester 2 Mr. Curtis

170 HUMAN NUTRITION

The basic components of food will be considered with respect to their biological function of maintaining human growth and vitality will be studied. The role of food additives and cultural variations in diet will be discussed. Prerequisite: 100.

Semester 2 Mr. Brink

181 BIOLOGICAL DETERMINISM AND BEHAVIOR

Refer to course description under Psychology 195.

Semester 1 Mr. Thompson

182 PRINCIPLES OF BEHAVIORAL EVOLUTION I: FUNDAMENTALS

Refer to course description under Psychology 233.

Semester 1 Mr. Thompson

183 PRINCIPLES OF BEHAVIORAL EVOLUTION II: APPLICATIONS

Refer to course description under Psychology 252.

Semester 2 Mr. Thompson

211 SEMINAR IN SYMBIOSIS

The many different aspects of plant and animal symbiotic associations will be studied using original research articles. Along with the descriptive and functional aspects of each type of association, the experimental techniques used to study the relationships between the symbionts will be examined. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Ahmadjian

213 PLANT PHYSIOLOGY

This is an introduction to the function and chemistry of plants. Three lectures, one laboratory period per week. Prerequisite: one course in Botany and one in Chemistry.

Not offered 1979–80 Mr. Brink, Mr. Johansen

214 SEMINAR IN PHYCOLOGY

Selected topics dealing with algae from the structural, physiological or ecological points of view will be discussed. Prerequisite: 110 and 113 or permission of instructor.

Not offered 1979–80 Mr. Johansen

215 INVERTEBRATE ZOOLOGY

This is a detailed survey on the diversity of invertebrates. Anatomical and histological examination of selected types, concepts of evolution and speciation. Prerequisite: two semesters of Biology or permission of instructor. Two lectures and two laboratory periods per week.
Semester 2 Mr. Johnson

216 QUANTITATIVE FIELD ECOLOGY

This is an introduction to ecological methods involving studies of both acquatic and terrestrial habitats. Prerequisite: Biology 117 or permission of instructor. Two lectures and two laboratories per week.
Semester 1 Mr. Johnson

217 MARINE BIOLOGY

This course is an introduction to plant and animal life in the oceans from the point of view of diversity, ecology, and evolution. Also included will be the relationships of marine biology to the welfare of mankind. Two lectures per week.
Semester 2 Mr. Johansen

219 LABORATORY IN ETHOLOGY

Refer to course description under Psychology 200.
Modular Term Mr. Thompson

221 EMBRYOLOGY

This is a consideration of the fundamentals of vertebrate embryology. Three lectures and one laboratory period per week. Prerequisite: 112 or permission of instructor.
Semester 2 Staff

224 NEUROANATOMY

The structural and functional organization of the central nervous system of man will be studied. Prerequisite: 112 or permission of instructor. Three lectures per week.
Not offered 1979–80 Staff

225 ELECTRON MICROSCOPY

This is an introduction to the principles of electron optics, use of the electron microscope, preparation of specimens and the techniques of electron microscopy applicable to biological investigations. Two lectures and two laboratory periods per week. Prerequisite: permission of instructor.
Semester 1 Mr. Curtis

228 MOLECULAR GENETICS

This course presents some of the most exciting recent discoveries in molecular genetics. Topics covered include the detailed mechanisms of DNA replication and recombination, regulation of transcription, RNA processing, overlapping genes, split genes, and recombinant DNA studies. An important part of the course is the reading of original journal papers. Intended primarily for seniors and graduate students. Prerequisites: 118 and/or 270.
Semester 2 Ms. Comer

229 ADVANCED TOPICS IN GENETICS

This course is a lecture-seminar format designed to review specialized topics in Genetics. Prerequisite: 118; permission of instructor.
Semester 2 Mr. Lyerla

232 SELECTED TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH

This is a seminar for advanced undergraduates and beginning graduate students. Prerequisite: Biology 100 and permission of instructor. Two 75-minute meetings per week. Also listed for credit as Environmental Affairs 232.
Semester 2 Mr. Reynolds

235 SEMINAR IN CELLULAR BIOLOGY

Prerequisite: Biology 137 or permission of instructor.
Semester 2 Mr. Curtis

238 ISSUES IN PUBLIC HEALTH

Prerequisite: permission of instructor. Also listed for credit as Environmental Affairs 238.
Semester 1 Mr. Reynolds

239 BIOLOGICAL AND HEALTH ASPECTS OF WATER POLLUTION CONTROL

This is an attempt to deal with those problems associated with water pollution that are amenable to solution through the application of concepts and approaches of the biological sciences. The participants do not have to be Biology majors but will be expected to be literate in one or more of the scientific disciplines. Prerequisite: permission of instructor. Two 75-minute meetings per week. Also listed for credit as Environmental Affairs 239 and Science, Technology and Society 239.
Semester 2 Mr. Reynolds

240 GENERAL ANIMAL PHYSIOLOGY

This is an introduction to the principles underlying physiological functions common to living organisms. The course covers the subcellular, cellular, and organ levels of organization and places a primary emphasis on mammals. Prerequisites: Introduction to Biology and Introductory Chemistry. Three lectures and one laboratory per week.
Semester 2 Mr. Meiss

242 COMPARATIVE ANIMAL PHYSIOLOGY

Not offered 1979–80 Staff

247 SEMINAR IN NEUROPHYSIOLOGY

This is a seminar on the principles of transmission, integration, and storage of information in neuronal pathways and other considerations of the nervous system and muscles. Prerequisite: one course in neurophysiology or its equivalent or permission of instructor.
Not offered 1979–80 Staff

249 PRINCIPLES OF NEUROPHYSIOLOGY

The physiology of central and peripheral nervous systems, receptors and muscles, considered in both vertebrates and invertebrates will be studied. Three lectures and one laboratory period per week. Prerequisite: Biology 240 or permission of instructor.
Semester 1 Mr. Meiss

260 DIRECTED RESEARCH

This is an advanced semi-independent study of an approved topic under the direction of a departmental member. Prerequisite: permission of instructor.

Semesters 1, 2, Modular Term Staff

261 DIRECTED READINGS

Advanced readings on an approved topic will be under the direction of a departmental member. Prerequisite: permission of instructor.

Semesters 1, 2, Modular Term Staff

262 HONORS IN BIOLOGY

Readings and research for students in the honors program. Credit/no record only.

Semesters 1, 2, Modular Term Staff

270a and b BIOCHEMISTRY

This is a two-semester course in which the option of taking only the first semester is available to those students not intending to do advanced studies in Biochemistry. The course will consider the basic principles and mechanisms of biochemical reactions in metabolic transformations of cell nutrients. The regulation of these processes by enzymes, genes, and hormones will be considered in the light of modern theories of biochemical processes. A laboratory component for the first semester will acquaint students with methods and instrumentation of biochemical research, such as radioisotope techniques. The second semester will cover advanced topics in Biochemistry. Prerequisite: Chemistry 130. Three lectures and one laboratory per week. Also listed for credit as Biochemistry 270a and b and Chemistry 270a and b.

Semesters 1 and 2 Mr. Brink, Mr. Nelson

271 BIOCHEMISTRY OF NUCLEIC ACIDS

The chemical and physical properties of RNA and DNA derived from various sources will be considered with respect to their isolation, separation, and characteristics. The functional role and biological significance of the nucleic acids in subcellular organelles will be examined. Prerequisite: Biology 270 or permission of instructor. Also listed for credit as Biochemistry 271.

Not offered 1979–80 Mr. Brink

273 NEUROCHEMISTRY

The metabolic aspects of brain amines and biopolymers will be considered in relation to neural function. Effects of drugs on memory processes will be discussed in terms of biochemical mechanisms. Prerequisite: Biochemistry or permission of instructor.

Not offered 1979–80 Mr. Brink

278 PRINCIPLES OF PHARMACOLOGY

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. Also listed for credit as Biochemistry 278 and Chemistry 278. (Formerly Biology 268 and Chemistry 268.)

Not offered 1979–80 Mr. Brink, Mr. Nelson

300 READINGS AND RESEARCH IN BIOLOGY

Offered for variable credit.
Semesters 1, 2, Modular Term — Staff

310 SCIENTIFIC WRITING FOR GRADUATE STUDENTS

This is an introduction to the techniques of writing scientific papers. The principal assignment will be the writing of a journal article and a detailed analysis of the steps involved. Related areas which will be covered include searching the scientific literature, handling of quantitative data relevant to biological systems, and oral presentation of a scientific paper. Prerequisite: permission of instructor.
Not offered 1979–80 — Mr. Ahmadjian

315 SEMINAR IN LICHENOLOGY

This is a detailed, yet broad, treatment of lichens with discussion of recent theories concerning their evolution and development. Symbiotic interactions, ecology, growth, nutrition and metabolism, water relations, chemistry, and genetics will be considered. Several local field trips and laboratory sessions will be held to deal with aspects of taxonomy and morphology.
Not offered 1979–80 — Mr. Ahmadjian

325 SEMINAR IN ULTRASTRUCTURE

The structure of macromolecules and subcellular organelles in relation to their biological functions will be discussed. Evidence obtained by a variety of physical and chemical methods will be considered, particular emphasis being placed on electron microscopic studies. Prerequisite: permission of instructor.
Semester 2 — Mr. Curtis

332 SEMINAR IN BACTERIOLOGY

Selected topics in bacterial ecology and applied bacteriology will be discussed. Prerequisite: permission of instructor.
Not offered 1979–80 — Mr. Reynolds

334 SEMINAR IN BEHAVIOR AND EVOLUTION

This is a consideration of contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. Also listed for credit as Psychology 334.
Semester 2 — Mr. Thompson

341 SEMINAR IN ENDOCRINOLOGY

Semester 1 — Mr. Curtis

350 GRADUATE SEMINAR

Semesters 1, 2, Modular Term — Staff

360 MASTER'S THESIS

Offered for variable credit.
Semesters 1, 2, Modular Term — Staff

390 DOCTORAL DISSERTATION

Offered for variable credit.
Semesters 1, 2 Modular Term — Staff

Business/Management

See Department of Management.

Chemistry

DEPARTMENT FACULTY

Daeg S. Brenner, Ph.D., Professor of Chemistry, Department Chairman
Harry C. Allen Jr., Ph.D., Professor of Chemistry, Dean of the Graduate School, Coordinator of Research
Karen L. Erickson, Ph.D., Professor of Chemistry
Edward N. Trachtenberg, Ph.D., Professor of Chemistry*
Wen-Yang Wen, Ph.D., Professor of Chemistry
Alan A. Jones, Ph.D., Associate Professor of Chemistry
Donald J. Nelson, Ph.D., Associate Professor of Chemistry
George E. Wright, Ph.D., Associate Professor of Chemistry (Affiliate)
Michael Novak, Ph.D., Assistant Professor of Chemistry
John J. Brink, Ph.D., Professor of Biochemistry, Adjunct Professor of Chemistry
Marcel Gut, Ph.D., Professor of Chemistry (Affiliate)
David Kupfer, Ph.D., Professor of Chemistry (Affiliate)

*On leave 1979–80

UNDERGRADUATE PROGRAM

The Chemistry Department offers a series of programs with the following goals in mind:

1) to make it possible for the chemistry major to complete his major requirements in three years without lowering academic standards
2) to provide a flexible set of course offerings so that a student may enter a chemistry program at a number of levels
3) to increase the number of offerings available to students not majoring in chemistry or the sciences
4) to offer a range of chemistry courses with an emphasis in environmental and health related fields
5) to offer a program for chemistry majors which will prepare students for environmental and health related careers

The requirements for the Chemistry major are two courses in Mathematics beyond Mathematics 11, two courses in Physics (Physics 11 or 12 and Physics 19 or 119) and eight courses in Chemistry and related fields beyond Chemistry 100 or 102. These courses must include:

Course	*Number*	*Course Credit*
Organic Chemistry	130 or 132	2
Inorganic Chemistry	150	1
Physical Chemistry I	160	1
Physical Chemistry II or Biophysical Chemistry	162 164	1
Environmental Chemistry or Analytical Biochemistry	142 144	1
		Total 6

The remaining two-course requirement may be met either by advanced chemistry courses or, with the permission of the Chemistry Department, by appropriate courses in Mathematics, Physics, and Biology. Although not a requirement, majors planning advanced degree work in Chemistry are strongly urged to take Physics 12 and 119 rather than Physics 11 and 19.

In addition, at least six courses in a major's program must be taken from courses outside the fields of Biology; Chemistry; Geology; Mathematics; Physics; Science, Technology and Society; and Environmental Affairs.

Students wishing to be accredited by the American Chemical Society should consult the department chairman with regard to specific course requirements.

Students planning graduate study in Chemistry are urged to take Chemistry 135, 200, 230, and/or advanced Mathematics, Physics, and Biochemistry courses, depending on the area of interest. A reading knowledge of German, French, or Russian is also recommended. All chemistry majors are encouraged to undertake independent research projects either as a candidate for honors (Chemistry 215) or in a special projects course (Chemistry 214) and may do after completing Chemistry 160.

A student may elect as his/her first course in Chemistry—Chemistry 10, 100, 102, 130, or 132. The decision to start with Chemistry 130 or 132 (all accelerating options) must be made in consultation with the department and may require taking a placement examination offered at the beginning of the academic year.

GRADUATE PROGRAM

The department offers programs leading to the degrees of master of arts and doctor of philosophy with specialization in various fields of chemistry. Emphasis is placed on tailoring programs to fit the specific needs and desires of the graduate student. To facilitate this goal, a committee of interested faculty works with each student to advise and review his/her progress in research work and, together with the student, defines the formal course work requirements. In the case of master's degree candidates, the requirements are essentially those of the University as stated elsewhere in the catalog. Up to one year's equivalent of teaching apprenticeship will be required of all candidates for advanced degrees.

In addition to formal course work, the student must pass qualifying and preliminary examinations, and the department language requirement must be met. For further details, students should consult the appropriate departmental publications.

Graduate scholarships, teaching assistantships, and research fellowships are available. Further information on these awards may be obtained from the department chairman.

COURSES

10 CHEMISTRY FOR THE CONCERNED CITIZEN

This one-semester, relatively nonmathematical course is designed for students majoring in social science or the humanities, and is intended to develop a qualitative feeling about chemistry as it relates to the modern world. Approximately half of the course is concerned with the development of modern chemical thought, while the remainder deals with current societal problems such as nuclear weapons and reactors, air and water quality, drugs, food additives, polymers, poisons, and others. Three lectures per week.

Semester 2 Mr. Brenner

100 INTRODUCTORY CHEMISTRY

This systematic study of the elements and their principal compounds and of the fundamental laws and theories of chemistry is designed as an introduction to the field of chemistry. A knowledge of high school algebra is necessary; high school chemistry and physics, though helpful, are not required. This course is designed to meet the needs of chemistry majors, students interested in biology, physics, medicine, and dentistry as well as those seeking a knowledge of chemistry as part of their liberal arts education. Three lectures, one recitation and one four-hour laboratory per week. Two lecture sections with enrollment in each limited to 75.

Semesters 1, 2 Staff

102 INTRODUCTORY CHEMISTRY

This course is identical to Chemistry 100 except that it will meet for three lectures and one four-hour laboratory per week during Semester 2 and for six lectures and two four-hour laboratories per week during the Modular Term. Enrollment limited to 30.

Semester 2, Modular Term Staff

130 ORGANIC CHEMISTRY

The lectures emphasize the synthesis and reactions of organic compounds, structure determination, and reaction mechanisms. The laboratory concentrates on the preparation and physical, spectral, and chemical properties of important classes of organic compounds. Prerequisite: Chemistry 100 or 102 or advanced placement. Three lectures and one four-hour laboratory per week.

Semesters 1, 2 Mr. Novak, Mr. Trachtenberg

132 ORGANIC CHEMISTRY

This course is identical to Chemistry 130 except that it is also open to students who almost qualify for advanced placement on the basis of examination. Three lectures and one four-hour laboratory per week during Semester 2, and six lectures and two four-hour laboratories per week during Modular Term.

Semester 2, Modular Term Mr. Trachtenberg

135 QUALITATIVE ORGANIC ANALYSIS

This laboratory study of the identification of organic compounds utilizes both classical chemical and modern instrumental techniques. Prerequisite: Chemistry 130 or 132 or permission of instructor. One hour conference and seven hours of laboratory per week.

Not offered 1979–80 Ms. Erickson

142 ENVIRONMENTAL CHEMISTRY

This course focuses on the chemistry related to environmental problems, particularly aquatic chemistry and aquatic pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. Prerequisite: Chemistry 100. Two lectures and one laboratory per week.

Semester 1 Mr. Jones

144 BIOANALYTICAL CHEMISTRY

This laboratory-oriented course presents both theoretical and practical aspects of quantitative analysis in biological systems. Topics discussed

include chromatography, electrophoresis, immunochemistry, ultracentrifugation, absorption and fluorescence, enzyme analyses, and radioactivity counting procedures. Prerequisite: Chemistry 162. Offered in alternate years. Also listed for credit as Biochemistry 144.
Semester 2 Mr. Nelson, Mr. Jones, Mr. Brink

150 INORGANIC CHEMISTRY

Included in this descriptive chemistry course of the elements are such topics as acid-base theory and ligand field theory. Prerequisite: Chemistry 100 or 102 or equivalent. Two lectures and one four-hour laboratory per week.
Semester 2 Staff

160 PHYSICAL CHEMISTRY I

The lectures cover principles of physical chemistry applied to gases, liquids, and solids; chemical thermodynamics; solution chemistry. The laboratory includes experiments in physical chemistry techniques of measurement and technical report writing. Prerequisite: Mathematics 12 and either Chemistry 100 or 102. Chemistry 130 or 132 is suggested as a pre- or corequisite. Prerequisite or corequisite: Physics 11 or a strong high school background in physics and enrollment in the recitation part of this course. Three lectures, one four-hour laboratory and one optional recitation every other week.
Semester 1 Mr. Wen

162 PHYSICAL CHEMISTRY II

The topics covered in this continued discussion of physical chemistry are solutions of the Schrodinger equation for simple systems, atomic and molecular spectroscopy, magnetic resonance, solid state and X-ray diffraction, statistical thermodynamics, and chemical kinetics. Three lectures, one four-hour laboratory, and one optional recitation every other week.
Semester 2 Mr. Wen

164 BIOPHYSICAL CHEMISTRY

Refer to course description under Biochemistry 164.
Semester 2 Mr. Nelson

200 PHYSICAL CHEMISTRY III

This is essentially an introduction to quantum mechanics and covers elementary quantum-mechanical treatment of the structure of atoms and molecules. Three lectures and one discussion per week. Prerequisites: Chemistry 160 and 162 or 164.
Semester 1 Mr. Allen

210 PHYSICAL CHEMISTRY IV

The course deals with the application of group theory to problems of chemical interest such as molecular vibrations, hybrid orbitals and molecular orbital theory. Three lectures and one discussion per week. Prerequisite: Chemistry 200 or equivalent.
Semester 2 Mr. Allen

214 SPECIAL PROJECTS

Individual investigations involve laboratory and/or literature research. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

215 HONORS COURSE

The honors course, primarily for majors seeking departmental honors in chemistry, involves a laboratory research project and participation in departmental seminars. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

220 POLYMER SCIENCE

The physical chemistry of synthetic polymers will be presented including discussion of kinetic mechanisms of polymerization, molecular weight distributions, unperturbed dimensions, structure and conformation, viscosity, and dynamic properties. Specific experimental methods useful in polymer chemistry such as osmotic pressure, light scattering, gel permeation chromatography, viscoelastic response, nuclear magnetic resonance, and dielectric response will also be reviewed. Prerequisite: Chemistry 162. Offered in alternate years.
Not offered 1979–80 Mr. Jones

230 PHYSICAL ORGANIC CHEMISTRY

This is a lecture course on the fundamentals of organic chemistry including molecular structure, acidity and basicity, kinetics, and mechanisms with emphasis on the most recent advances in organic chemical theory. Prerequisites: Chemistry 130 or 132, 160 or permission of the instructor.
Semester 1 Mr. Trachtenberg

233 ORGANIC CHEMISTRY OF BIOMOLECULES

This lecture course emphasizes the synthesis, proof of structures, reactions, and reaction mechanisms of important classes of molecules playing significant biological roles. Topics discussed will be the carbohydrates, fats, proteins, and cyclic ureides, including the pyrimidenes and purines of importance in drugs and on nucleic acids. A selection of other molecules from the steroids, alkaloids, and terpenoids also will be discussed briefly. Prerequisite: one year of Organic Chemistry (130 or 132).
Semester 2 Mr. Trachtenberg

235 NATURAL PRODUCTS

The chemistry of selected naturally occurring compounds. Includes structure determination, synthesis, mechanistic interpretation of exotic transformations, and biogenetic theory. Prerequisite: Chemistry 130 or 132, 135 or permission of instructor. Three lectures and one four-hour laboratory per week. Offered in alternate years.
Not offered 1979–80 Ms. Erickson

242 NUCLEAR SCIENCE

This course covers the fundamentals of nuclear chemistry and physics: production, isolation, identification, and measurement of radioactive atoms. Three lectures and three laboratory hours per week. Prerequisite: permission of the instructor.
Mr. Brenner

270a and b BIOCHEMISTRY

Refer to course description for Biochemistry 270a and b. Also listed for credit as Biology 270a and b.
Semesters 1, 2 Mr. Brink, Mr. Nelson

272 PROTEIN CHEMISTRY

Refer to course description for Biochemistry 272.
Semester 2 Mr. Nelson

278 PRINCIPLES OF PHARMACOLOGY

Refer to course description for Biology 278. Also listed for credit as Biochemistry 278. (Formerly Biology 268 and Chemistry 268.)
Not offered 1979–80 Mr. Brink, Mr. Nelson

300 RESEARCH

Offered for variable credit.
Semesters 1, 2, Modular Term Staff

322 THERMODYNAMICS

This lecture course discusses applications of three laws of thermodynamics to chemical systems. Offered in alternate years at the discretion of the department.
Semesters 1, 2 Mr. Wen

323 STATISTICAL MECHANICS

This lecture course treats statistical mechanics as a bridge between molecular properties and thermodynamic functions, as applied to chemical systems. Offered in alternate years at the discretion of the department.
Semesters 1, 2 Mr. Wen

333 SYNTHETIC ORGANIC CHEMISTRY

These lectures on synthesis of organic molecules emphasize scope and limitations of general methods, mechanism and stereochemistry, synthesis of carbon to carbon bonds, oxidation and reduction. Prerequisite: Chemistry 230 or permission of instructor. Offered in alternate years.
Not offered 1979–80 Ms. Erickson

344 SELECTED TOPICS IN ADVANCED NUCLEAR CHEMISTRY

This is a discussion of the current experimental and theoretical literature in nuclear reactions, fission, and nuclear spectroscopy. Prerequisite: Chemistry 242 or its equivalent. Offered in alternate years at the discretion of the department.
Semesters 1, 2 Mr. Brenner

350 SEMINAR

This seminar consists of reports on research and discussions of recently published work. Not offered for credit.
Semesters 1, 2 Guest Lecturers, Staff, Graduate Students

361 MOLECULAR STRUCTURE

This course concerns physical methods relevant to the determination of molecular structure and the characterization of molecular motion. Several methods will be discussed although the emphasis will be on magnetic resonance. Offered in alternate years at the discretion of the department.
Semesters 1, 2 Mr. Jones

369 ELECTRONIC SPECTROSCOPY

This is an introduction to the study of ultraviolet and visible absorption spectra as well as emission spectra. Prerequisite: permission of instructor. Offered in alternate years at the discretion of the department.
Semesters 1, 2 Mr. Wen

379 SPECIAL TOPICS

This seminar course consists of research and literature; reports by graduate students.
Semesters 1, 2 Staff

380 RESEARCH CONFERENCE

This conference consists of informal reports of research work being done in the laboratory. Not offered for credit.
Semesters 1, 2 Staff, Graduate Students

Classics

PARTICIPATING FACULTY

Paul F. Burke Jr., Ph.D., Associate Professor of Classics*
John Moore, Ph.D., Visiting Assistant Professor of Classics

*On leave 1979–80

The following courses in Classical Humanities are taught in English and are recommended to students as part of their general education and to majors in Comparative Literature, English, Foreign Languages and Literatures, Fine Arts, History, Music, and Philosophy. Courses in Greek and Latin on all levels may be taken at the College of the Holy Cross through the Consortium.

COURSES

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHEOLOGY

This course is a general introductory survey of ancient Greek culture and history covering: the Bronze Age civilizations of Crete and Mycenae, the classical Greek city-states, the conquests of Alexander, and the emergence of international urban culture in the Mediterranean world. Readings in the works of ancient authors will be chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archeology, will be illustrated by slides. (See also History 121.)
Semester 1 Mr. Moore

122 INTRODUCTION TO ROMAN CULTURE, ART, AND ARCHEOLOGY

This is a survey of ancient Roman culture and history, continuing the work of Classics 121, and covering the rise of Rome in the Hellenistic world, the Roman Republic and Empire, the end of the ancient world, and the beginnings of Christian Europe. Reading in the works of appropriate ancient authors in translation will be supplemented by secondary texts and by lectures on ancient art, politics, and religion. Many lectures will be illustrated by slides. Classics 121 is not a prerequisite but is recommended. (See also History 122.)
Semester 2 Mr. Moore

124 GREEK AND ROMAN MYTHOLOGY

This course is a study of ancient Near Eastern, Greek, and Roman literary texts (along with some modern ones), which are particularly useful for gaining an understanding of the function of myth in Graeco-Roman antiquity as a vehicle for artistic communication and social commentary. The archaeological and anthropological background of the ancient world will be sketched in, and the religious and philosophical implications of myth will be discussed. The course will pay particular attention to the influence of ancient mythology on later European culture, especially literature and art. Various modern approaches to myth analysis will be touched upon: structural, psychoanalytical, and literary. Many of the lectures will be illustrated by slides.

Semester 1 Mr. Moore

136 GREEK DRAMA

A literary survey of the theater and drama of the ancient Athenians, its origins in festival and ritual, and its brief but brilliant flowering. Twelve tragedies by Aeschylus, Sophocles, and Euripides, two comedies by Aristophanes in English translation, and two modern plays will be studied. Lectures will focus upon the dramatic art of the plays and on the nature of the tragic as we find it here.

Semester 2 Mr. Moore

140 PHILOSOPHIC DIALOGUE AS A LITERARY FORM

Plato's development of a new form, dialogue out of tragedy and out of the characters, events, and issues of life, will be studied in our reading of several dramatic dialogues (in good English translation) including: Laches, Euthyphro, Apology, Phaedo, Symposium, Phaedrus. A brief glance at the subsequent life of dialogue including short readings from Dryden and Berkeley will complete the course. (See also Comp. Lit. 140.)

Semester 1 Mr. Moore

150 NARRATIVE IN ANCIENT HISTORICAL WRITING

This is a survey of ancient modes of writing and interpreting history. By reading selected works of ancient authors in translation, students will examine the influence of myth, propaganda, and rhetorical stereotyping on the portrayal of characters and events in ancient biographical and historical writing. Topics considered will include: narrative and stylistic technique, rhetoric, character portrayal, propaganda and reliability, the manipulation of events for artistic purposes, the effect of the author's intent on his work, and the presence or intrusion of the author's personality. The course will require reading, in translation, selections from Herodotus' *History,* Thucydides' *History of the War between Athens and Sparta,* Plutarch's *Lives,* Josephus' *History of the Jewish War,* and Tacitus' *Annals and Histories.* Reference will also be made to Old and New Testament ideas of patterns and purpose in history and to poetic treatments of history by authors such as Homer and Virgil. (See also History 150.)

Semester 2 Mr. Moore

160 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

This is a historical and cultural survey of the complex and tumultuous period between the foundation of the Roman Empire and the sixth century AD, when medieval culture was established in Europe. Two themes will dominate the course: (1) the struggle between pagan or classical modes of thought and Judaeo-Christian beliefs and values, and the assimilation of

each in the other; (2) the tension within the Christian movement between spiritual and practical concerns as the new religion came to dominate Western culture. The interaction in this colorful and fascinating period of Graeco-Roman, Jewish, and Christian cultures will be approached by reading ancient authors in translation, by studying appropriate secondary sources, and by examining representative samples of the visual arts of the period in lectures illustrated by slides. Other topics covered will include: the Jewish and Middle Eastern roots of Christianity, the position of Judaea as a subject state within the Roman Empire and its attempts at political autonomy, the diverse religions and philosophies current in the Mediterranean world, the establishment and significance of the idea of Rome in Western civilization.
Not offered 1979–80 Mr. Burke

Comparative Literature

PARTICIPATING FACULTY

Kenneth Hughes, Ph.D., Associate Professor of German, Program Director*
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French, Acting Program Director
Raymond E. Barbera, Ph.D., Professor of Romance Languages
Walter Schatzberg, Ph.D., Professor of German
Paul F. Burke Jr., Ph.D., Associate Professor of Classics*
Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish**
Hartmut Kaiser, Ph.D., Associate Professor of German
J. Fannin King, M.A., Associate Professor of Romance Languages
Michael K. Spingler, Ph.D., Associate Professor of French
John Moore, Ph.D., Visiting Assistant Professor of Classics
Leo Ortiz-Minique, M.A., Visiting Instructor of Spanish

*On leave 1979–80
**On leave Semester 1, 1979–80

UNDERGRADUATE PROGRAM

The Major in Comparative Literature

The major in comparative literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program that, in turn, reflects the broadest possible frame in which to pursue the study of literature.

Requirements

1) No fewer than five courses must be taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
2) Suggested sequence of core courses in Comparative Literature:
   (a) Ideally, the student should have taken Problems in Comparative Literature (CMLT 110) or a similar introductory comparative literature course by the end of the sophomore year.

   - (b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (CMLT 230), Studies in Narrative Form (CMLT 240), or English Poetry (English 13). Again, in certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the adviser.
   - (c) While a student may wish to devote the senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar in Literary Criticism (CMLT 251).

3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with his/her faculty adviser.

UNDERGRADUATE/GRADUATE PROGRAM

The three-year B.A./M.A. Program in Comparative Literature is available to students who have completed the sophomore year, who have a good background in at least one foreign language (French, German, or Spanish), and who have a demonstrated interest in literature and literary criticism.

In order to achieve the general objective of the program—becoming *the highly critical student of literature*—and to permit a common ground for discussions in the Colloquium on Literary Problems, the following sequencing of required core courses is suggested when possible. Exceptions will be made where special situations prevent this sequencing.

1) Studies in Narrative Form	(1 unit)
2) Elements of Drama	(1 unit)
3) Seminar in Literary Criticism	(1 unit)

Reading lists will be made available to all students upon their acceptance into the program. These lists will assure that students are exposed to the same sources and methodologies and will make available a common vocabulary to enable participation in the discussions that form a regular and indispensable part of the process of critical awareness and investigation. The three core courses are integrated and designed to offer to students an exposure to critical ideas that will enable them to meet on common ground to consider actively the validity of ideas and methods. The three-year program beginning with the junior year is, in effect, an investigation of the nature of criticism as it applies to literary works. Fluency in that area, therefore, is the goal.

The Colloquium on Literary Problems

An indispensable part of the program is the colloquium. It is a forum where students and faculty meet one evening every two weeks to discuss problems ranging from modifications and evaluation of the program itself to discussion of critical problems in literary works. The colloquium allows the students the opportunity to express their ideas and to test them in the presence of their peers. It is designed to allow a free discussion of ideas which, however, involves careful preparation. First-year students who have yet to take the core courses will find themselves among students who have completed their first and second years and also among those who are writing their theses. As a consequence, the colloquium, besides soliciting discussion, serves as a learning-teaching experience with students progressing from the learning to the teaching stage.

Required Courses in Addition to Core Courses

It is basic to the philosophy of the program that each candidate become fluent in at least one foreign language. To this end, each candidate is to take six courses either in a foreign literature (German, French, or Spanish) in the original language or, where students have a command of more than one foreign language, in a combination of the two if desired. Such expertise precludes the parochialism of the monolinguist. It is indeed an anomaly that a comparatist should function on the basis of his/her native language alone. Students with a good language background are encouraged to learn more than one foreign language. A number of students currently enrolled in the program find themselves in this category.

Teaching Internship

Some teaching experience is a requirement for the M.A. degree. A teaching internship will be available for qualified students in the final year. Interns will serve as instructors and discussion leaders in foreign language, foreign literature, and comparative literature courses and will be involved in the course in its entirety. The internship may also involve participating in the direction and production of a foreign language play.

The M.A. Thesis

The thesis is the culmination of the student's work in her/his critical and comparative studies of literature and related areas throughout the junior and senior years. Before the end of the senior year the student will present a thesis proposal to an advisory committee and to the colloquium for discussion and development. Ideally, an integrated program of studies from the beginning of the junior year will lead naturally to the selection and execution of a thesis topic during the final year by a student who will have developed his/her own area of interests and who will have acquired both sensitivity and critical awareness in the analysis of literary texts and problems.

Financial Aid

Some partial- and full-tuition remission scholarships will be available in the student's final year in the program. Several teaching assistantships will also be available to students involved in the teaching internship in their final year. All awards will be based upon need and merit.

COURSES

110 PROBLEMS IN COMPARATIVE LITERATURE

This is an introductory course in comparative studies of literature from a problem-oriented perspective. The course will revolve around five major issues:

1) The Tragic View
2) The Challenge of Faith
3) Man the Measure
4) The Search for Identity
5) The Esthetics of Ambiguity

Readings will include selections from Sophocles, Job, Pico, Pascal, Pope, Nietzsche, Mann, Hofmannsthal, Rilke, Hesse, Kafka, Joyce, Bernanos, Beckett, and Cortazar. Recommended for freshmen and sophomores.

Semester 2 Mr. Schatzberg

118 MASTERPIECES OF WORLD LITERATURE

This is a comparative survey of the development of European literature. Works to be studied, in English translation, have been chosen to illustrate the most important stages in the evolution of the Western understanding of the human condition. Reading during the fall semester will include Homer's *Odyssey,* Virgil's *Aeneid,* Dante's *Divine Comedy,* and Montaigne's *Essays.*

Not offered 1979–80 Mr. Burke, Mr. King

119 MASTERPIECES OF WORLD LITERATURE

This course is a comparative survey of the development of European literature. Works to be studied, in English translation, have been chosen to illustrate the most important stages in the evolution of the Western understanding of the human condition. Reading during the spring semester will include Cervantes' *Don Quixote,* Shakespeare's *The Tempest,* Goethe's *Faust,* Ibsen's *The Masterbuilder,* Kafka's *The Trial,* and Beckett's *Endgame.*

Not offered 1979–80 Mr. Shatzberg

120 THE EPIC JOURNEY

The course is a close comparative examination of the epic as a recurring literary form with special attention to the various forms and functions of the hero's *journey.* Epic journeys may or may not have goals which are clear to the hero; they may be wanderings in unknown parts of the physical world, or they may be representative of various types of spiritual striving and trial. Our task will be to define and articulate the various types of epic voyages and to relate their differences and similarities to the values of the societies that gave rise to them. Readings will consist mainly of primary literary texts with supplementary assignments in appropriate modern critical works; included in the reading will be selections (in English translation) from: Homer's *Odyssey,* Virgil's *Aeneid,* Petronius' *Satyricon* as an example of mock epic, Apuleius' *Golden Ass,* and Dante's *Divine Comedy.*

Not offered 1979–80 Mr. Burke

130 MAGIC CARPET: THE AMERICAN/EUROPEAN JOURNEY

From Columbus to Antonioni, the concept of the journey offers unique insights into the cross-cultural values and imagination informing American and European literature and film. Designed for students of comparative literature and British and American fiction and cultural geography, the course will focus on how the literary and film text articulates movement through space and attributes cultural and spiritual significance to man/woman's encounter with the landscape. Through class discussion and student papers, the course will investigate the constructs, limits and desires of the journey text and analyze the verbal and visual logic which organizes the journey and produces a cultural meaning. Four to five three-page papers dealing with the readings and films will be required. Although works to be studied will depend on availability, the syllabus will, no doubt, include such material as the short stories of Hawthorne, Henry Miller's *The Air-Conditioned Nightmare,* and Antonioni's *The Passenger.*

Semester 1 Ms. LeBlanc

140 PHILOSOPHICAL DIALOGUE AS A LITERARY FORM

Refer to course description under Classics 140.

Semester 1 Mr. Moore

170 IN-FORM-ATION: MEANING THROUGH STRUCTURE IN MUSIC, LITERATURE, THEATER, AND EVERYDAY TALK

This course explores the ways in which form creates meaning. A set of common concepts is used to look at qualities of structure in a variety of creative experiences. Our goal is to develop in the student the ability to recognize the significance of forms, whether they occur in art or in everyday life. The course assumes that some of the most meaningful insights into a particular subject may be gained by bringing to bear upon it the critical methods of other areas of knowledge. The course is listed for credit as Comparative Literature 170, Music 170, and Philosophy 149.

Semester 2 — Mr. Spingler, Mr. Anderson, Mr. Fuller

175 LITERATURE AND EXISTENTIALISM

The course is an introduction to major writers and themes of existentialism from Dostoyevsky, Kierkegaard, and Nietzsche to Sartre, Camus, and Beckett. Beginning with a study of the cultural origins of existentialism as a distinctively modern, European sensibility, we will explore why and how existentialist thought has found expression with unique appropriateness as both philosophical literature and literary philosophy. Prerequisite: permission of the instructor.

Semester 1 — Ms. Kaufmann-McCall

182 ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS

This is a study of Romanticism in philosophy, literature, music, and the visual arts. Romanticism is seen as a rebellion against traditional values in art and life placing the individual at the threshold of modernity. Expressions of the themes of alienation and personal transformation are studied in novels and novellas, poetry, philosophical literary works, program music, painting, and film. The course is listed for credit as Comparative Literature 182, English 182, Music 182, and Philosophy 182.

Not offered 1979–80 — Mr. Blinderman, Mr. Castonguay, Mr. Overvold, Mr. Schatzberg

192 LANGUAGE IN SOCIAL CONTEXT

This course takes a look at language from the perspective of sociolinguistics. The course will view spoken discourse as situated action whose meaning both reflects and creates the social context in which it takes place, whether in the everyday world or the world of the literary text. Starting with the notion of speech communities, the class will consider how verbal performance varies as individuals and groups assume different roles in different situations. Topics will include ritualized speech events, linguistic subcultures, male-female language, code-switching, bilingualism, and functions of language in the classroom. Discussion and reading will be supplemented by several short observational tasks. See also Linguistics 192 and Education 192.

Not offered 1979–80 — Ms. Nigrosh

210 THE LITERARY HERO

As early as 1499, in European literature, a harlot becomes the heroine of a major work. The intrusion of characters of less than heroic stature is an innovation that merits some study. Beginning with the *Celestina,* and followed by a number of works including *Lazarillo de Tormes* and *Moll Flanders,* an attempt will be made to trace the increasing importance of characters of "piccola nazione" in the literary work. Heroic qualities yield

to their opposite. The questions and problems that arise as a result of such a displacement will be the subject of analysis and commentary.
Semester 1 Mr. Barbera

215 MARXISM AND ART

The course considers two sides of the relationship of Marxism to art: (1) how, as a philosophical foundation of political entities, Marxism affects the kinds of art produced under its sponsorship; and (2) the kinds of critical theories and strategies which, as an analytical tool, Marxism generates. The course presents a broad survey of Marxist considerations of art and literature. Among the topics discussed are: the alternation of cultural repression and "thaw," the historical development of art theory from Marx to the present, Stalinism and the distortion of the human image in Marx, the theory and practice of socialist realism, the critique of modernism and formalism, and the alienation of the artist in contemporary capitalist and socialist society. A basic acquaintance with both the classics of Marxist thought and the fundamentals of literary and art criticism is presupposed.
Not offered 1979–80 Mr. Hughes

225 POLITICS AND THE NOVEL

This is a study of the relationships between private imagination and social consciousness; the structure of idea in a novel; tensions of political and literary language; revolution as nostalgia, as heroic possibility, as dream and as nightmare. Readings will include Diderot, *Rameau's Nephew;* Stendhal, *The Red and the Black;* Dostoyevsky, *The Possessed;* Malraux, *Man's Fate;* Doris Lessing, *The Golden Notebook;* Robert Penn Warren, *All the King's Men.* Reference will be made throughout the semester to relevant historical and theoretical texts. Students will be expected to develop a research project on the subject of the course as it relates to their particular field of interest.
Not offered 1979–80 Ms. Kaufmann-McCall

226 EROS AND FEMINISM

The course studies the meaning of eros from an interdisciplinary perspective, exploring problems and creative possibilities in the tension between our need for union and our need for separateness. Emphasis will be on the feminist effort to transform traditional notions of love, sexuality, and the meaning of private life. The course is intended as a workshop for upperclass and graduate students. Each student will be expected to give an oral report in her or his particular discipline, to be developed into a research project. Students will also be asked to keep a journal, recording impressions of class discussion and reading in light of their own experience. Texts will include Plato, *Symposium;* Erich Neumann, *Amor and Psyche; Women and Analysis* (essays by Freud, Emma Jung, Horney, Mitchell, and others); Engels, *Origins of the Family;* Kate Chopin, *The Awakening;* D.H. Lawrence, *Lady Chatterley's Lover;* John Barth, *Chimera;* Isadora Duncan, *My Life;* Emma Goldman, *Living My Life;* feminist essays on love by Goldman, Beauvoir, Greer, Firestone, Helene Cixous. Prerequisite: permission of instructor.
Not offered 1979–80 Ms. Kaufmann-McCall

230 ELEMENTS OF DRAMA

The course explores ways of approaching the dramatic text based on the conditions and problems peculiar to the stage. Through the study of

representative plays from major dramatic periods, the course will investigate the nature of such concepts of dramatic analyses as plot, character, dialogue, and enactment as well as such elements of dramatic aesthetics as tempo, mode, image, and sequence of impressions. The particular nature of the points of view of playwright, director, actor, and spectator will be investigated.
Semester 1 Mr. Spingler

235 PROBLEMS IN DRAMA: MYTH AND STRUCTURE

A study of the ways in which myth is articulated through specific dramatic structures. The peculiar character assumed by myth when it is embodied in the theatre will be the subject of analysis and discussion. It will concentrate on myth not as familiar and ancient story but as the contemporary and commonly, if sometimes subconsciously, held beliefs of a culture. Plays for analysis will be chosen from the following: Aeschylus, *The Eumenides,* Euripedes, *Hippolytus,* O'Neill, *Desire Under the Elms, Mourning becomes Electra,* Shakespeare, *King Lear,* Ibsen, *Ghosts,* Lorca, *Blood Wedding,* Ghelderode, *The Chronicles of Hell,* Ionesco, *Jack or the Submission.*
Not offered 1979–80 Mr. Spingler

237 LANGUAGE IN THEATER

This course examines the nature of theatrical communication; the problem of theatrical signs; relationship between text and gesture; differences and affinities between everyday talk and dramatic dialogue. Analysis and scene work concentrates on three plays: Sartre's *No Exit,* Racine's *Phedre,* and Beckett's *Play.* Theatrical readings include Artaud's *Theater and its Double* and Grotowski's *Towards a Poor Theater.* Some work will be done with labanotation.
Not offered 1979–80 Mr. Spingler

240 STUDIES IN NARRATIVE FORM

An exploration of narrative both structurally and historically with an emphasis on literary fiction as a particular kind of narrative form. We will follow the evolution of narrative in Western literature through the ideologies of realism and modernism, as they have been elaborated in fiction and in critical theory. The relevance of nonliterary narrative to the understanding of fiction will also be discussed. Texts will include: Auerbach, Lukács, Sontag, Kermode, and Barthes; Tolstoy, short stories; Flaubert, *Madame Bovary;* Joyce, *Portrait of the Artist;* Fitzgerald, *The Great Gatsby;* Sartre, *Nausea;* Nabokov, *Lolita;* Wittig, *Les Guérillères.* Prerequisite: permission of the instructor.
Semester 2 Ms. Kaufmann-McCall

251 SEMINAR IN LITERARY CRITICISM

This course seeks to develop critical sensibilities by concentrating on three major modes of literary criticism: textual, psychoanalytic, and Marxist. An effort is made to define the usefulness and limitations of each mode. We read and discuss both original sources (Freud, Marx, etc.) and a wide range of criticism based on their methods. An attempt is made to demonstrate that a complete critical engagement with a literary work must start from a close examination of the text itself, proceed to a consideration of the interaction between text and the author's life and mind, and from there, to an investigation of the social setting that conditions text, life, and mind. The course is therefore structured in three "levels" dealing with text,

psychobiography, and society. Students write one seminar paper, but do so in three stages; this affords an opportunity both to rewrite prior stages and constantly to incorporate new material. In order to unify discussion and development, the seminar centers around a thorough critical occupation with the works, life, and society of Franz Kafka. Primary material includes his short stories, his novel *The Trial, Letter to His Father,* and *Letters to Milena.*
Not offered 1979–80 Mr. Hughes

256 COLLOQUIUM ON PROBLEMS

This is an ongoing colloquium designed to consider the formulation and resolution of problems in comparative literature. It is open to and required of students accepted into the Comparative Literature Program.
Semesters 1,2 Staff

258 SELF, SYMBOL, AND VALUE

Students engage in an exploration of the self and its transformations from the perspective of philosophy, literature, and the social sciences. The course examines such issues as the attainment and dissolution of personal identity, the role of language in the formation of the self, selfhood and sexuality, the self in relation to fantasy and imagination, the self and its social context. The course is listed for credit as Comparative Literature 258, Philosophy 258, and Psychology 258.
Not offered 1979–80 Mr. Kaplan, Ms. Kaufmann-McCall, Mr. Wright

272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This study is conducted primarily as a senior seminar in which comparative literature, geography, and philosophy provide integrated perspectives on the city. American and European models of classical and contemporary cities are used to analyze the historical, geographic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City. The course is listed for credit as Comparative Literature 272, Geography 272, Philosophy 272, and Spanish 272.
Not offered 1979–80 Mr. Anderson, Mr. Bowden, Mr. D'Lugo

Computer Science

DEPARTMENT FACULTY

Alan E. Larson, Director of Computer Services
Joseph E. Tomkowitz, Systems/Applications Programmer

The courses in the area of Computer Science listed below are available to Clark students. They involve the use of the P.D.P. 11/70 Computer System located on campus. Other Computer Science courses are available through the Worcester Consortium.

101 INTRODUCTION TO COMPUTER PROGRAMMING—BASIC

This is an introductory programming course designed for students with no mathematics beyond high school algebra. The emphasis of the course will be on using the computer and the basic programming language as a tool for solving problems in any discipline. Students develop a working

knowledge of character representation and manipulation, number representation and arithmetic, subroutines and functions, arrays and indexing, and most of all, structured programming techniques and algorithms that make programming easier. (Formerly a course in Fortran IV.)
Semesters 1,2 Staff

102 COMPUTER APPLICATIONS

Advanced topics in computer use are covered including searching and sorting, file design, recursion, lists, stacks, and queues. Several projects requiring programming skill are assigned. Prerequisite: Computer Science 101 or permission of instructor.
Semester 2 Mr. Tomkowitz

103 INTRODUCTION TO COBOL PROGRAMMING

The concepts of Cobol, today's most widely used programming language for business applications, are introduced. The student is expected to complete a number of programming assignments during the course. Prerequisite: Computer Science 101 or permission of instructor.
Semester 2 Mr. Larson

140 ASSEMBLER LANGUAGE PROGRAMMING

This course is designed to enable the student to write substantive programs in assembler language for the P.D.P. 11/70. While a knowledge of a higher level language is not necessary, some familiarity with computer operations would be helpful. Otherwise, permission of instructor required.
Not offered 1979–80 Staff

201 ADVANCED COMPUTER PROGRAMMING

This course is designed for students with previous programming experience. Each student is expected to select and carry to completion a project requiring substantive computer analysis in machine language, assembler, or any higher level language. Offered for variable credit.
Semesters 1, 2 Staff

MATHEMATICS 109 PATTERN RECOGNITION

Refer to course description under Mathematics.
Not offered 1979–80 Mr. Stubbe

MATHEMATICS 117 FORTRAN FOR SCIENCE STUDENTS

Refer to course description under Mathematics. Offered as a half course, first half of semester.
Semester 1 Mr. Stubbe

MATHEMATICS 118 ELEMENTARY NUMERICAL ANALYSIS

Refer to course description under Mathematics. Offered as a half course, second half of semester.
Semester 1 Mr. Stubbe

MATHEMATICS 119 LINEAR PROGRAMMING

Refer to course description under Mathematics.
Semester 2 Mr. Poreda

Economics

DEPARTMENT FACULTY

Roger C. Van Tassel, Ph.D., Professor of Economics, Department Chair
Howard W. Nicholson, Ph.D., Professor of Economics
Attiat F. Ott, Ph.D., Professor of Economics
E. C. H. Veendorp, Ph.D., Professor of Economics
George E. Hargest, M.B.A., Associate Professor of Economics, Emeritus
Robert C. Hsu, Ph.D., Associate Professor of Economics
Frank W. Puffer, Ph.D., Associate Professor of Economics
Maurice D. Weinrobe, Ph.D., Associate Professor of Economics
Don M. Shakow, Ph.D., Assistant Professor of Economics

UNDERGRADUATE PROGRAM

The undergraduate program is designed to give the student a comprehensive grasp of the underlying principles and functions of economic institutions and to develop habits of systematic thought.

Goals of the Major

The rationale for Economics majors can be stated briefly and simply. We believe economics offers a useful insight into a better understanding of fundamental human behavior in the decision-making process and a great variety of national economic issues. While we recognize that economics alone seldom gives answers, we also feel that there are few issues, at least in the social sciences, in which the contribution of fairly formal economic analysis does not play a necessary role. There are obviously some advantages in an Economics major besides a more broadly accepted educational value. It is a good preparation for law, business, and a number of other professional and not so professional careers. However, the emphasis of our program (and its rationale) is the educational one. The major in Economics is clearly devised to help the student think and develop. The student takes a sequence of courses that should develop an appreciation of both the strengths and limitations of the subject. Finally, a student "who gets it all" in his first course has really accomplished much of this objective. For almost everyone, however, some repetition, reinvolvement, and greater experience in additional and more advanced courses is required to develop the necessary mixture of confidence and competence.

Economics 10, Issues and Perspectives, is prerequisite for all "100"-level courses and for Econ 11, Principles of Economics. Econ 11 is prerequisite for "200"-level courses in the department. All majors in economics must take Econ 10, 11, and Econ 205.1, and 205.2, Intermediate Theory. Econ 160, Statistics, is strongly recommended for all majors and required for some tracks. Students in their last three years must take no less than 50 percent or more than 80 percent of their work in Economics and courses appropriate to their track. In addition, all majors are required to have a department advisor to assist in developing a program of study. Within the tracks, students may elect a variety of options. These options are built on a common core of analysis required of all majors and extend to include a coherent program of courses offered within the department and in related departments. The options are: economics professional, business, prelaw, and the expanded major. Students should refer to the *Undergraduate Economics Handbook* for further information regarding requirements.

The department offers two separate honors programs. Selected students may engage in independent study off campus for a semester and summer, preferably during the junior year. These students work for business firms or government agencies in applied economic research. A semester's credit is awarded. In addition there is an on-campus program. Juniors in their second semester take an honors course and, as seniors, may continue and complete the honors program with the writing of a senior thesis.

Some courses may be offered only in alternate years. Detailed course descriptions are available at the department office and at the Registrar's Office.

GRADUATE PROGRAM

The University offers facilities for graduate study and research leading to the master of arts and doctor of philosophy in Economics.

Graduate students may elect to take a limited amount of work in related courses offered by other departments.

Scholarships and fellowships are available for a limited number of well-prepared students. These appointments exempt their holders from tuition fees and some carry stipends in varying amounts. Several teaching assistantships are also awarded which enable graduate students to gain experience in undergraduate instruction. These carry remission of tuition and a cash payment, up to $2,800 for part-time work (one half).

MASTER OF ARTS PROGRAM

Students enrolled in the Ph.D. program may be awarded the M.A. degree upon satisfactory completion of the three Ph.D. "special fields"; or, in the case of students who do not continue toward the Ph.D., upon satisfactory completion of an approved program of course work, the writing of an M.A. thesis, and an oral examination.

A student should discuss her/his plans with the graduate student advisor on or before registration day and secure approval of his/her course program.

DOCTOR OF PHILOSOPHY PROGRAM

Two full academic years of graduate work, or its equivalent in part-time work, is necessary for admission to Ph.D. candidacy. One of these years must be spent in residence at Clark University. In residence is broadly defined as work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

All candidates for the Ph.D. in Economics are required to demonstrate proficiency in econometrics and mathematical economics, i.e., by passing designated courses offered in the department or, in the case of prior preparation, by passing a test given by the department.

Each student in the Ph.D. program is required to demonstrate proficiency in economic theory. The economic theory requirement includes micro-theory, macro-theory, and the history of doctrine. Use of mathematics may be required in the examination in economic theory. The student satisfies the economic theory requirement by passing course examinations.

Upon completion of economics theory and the three special fields, the student is admitted to candidacy for the Ph.D. These fields may be selected from among the following: monetary economics, public finance, industrial organization, international trade, comparative economic systems, econometrics, advanced theory, or one field selected from related subjects. If econometrics or advanced theory is selected as a special field, the level of performance required is substantially higher than the general requirement in econometrics and economic theory for all Ph.D. candidates. The choice of fields must be cleared in advance with the graduate student adviser. Not all graduate field courses are offered each year. Two field courses are offered annually. Two fields are taken during the second year, and the third field, along with the dissertation, is completed during the third year.

Soon after having completed the field requirements, each student is expected to develop a written prospectus of his/her dissertation and then to make a presentation before an informal conference with the dissertation committee demonstrating *both* the extent of knowledge of his/her dissertation field and the feasibility of the proposed topic.

Upon completion of the dissertation in a form acceptable to the committee, the candidate will make a copy of the dissertation available to the department, the staff, and graduate students in the department. After a period of approximately two weeks, to permit a wider reading of the dissertation within the department, the candidate will present the dissertation at a seminar open to all staff and graduate students in the department. Final approval of the dissertation will be granted by the committee after consideration of any suggestions of changes or challenges arising from the final seminar. Unless the dissertation is completed and defended within five calendar years from admission to candidacy, the certifying examinations must be repassed.

The dissertation must be a real contribution to knowledge, based upon independent research, convincingly presented, and acceptably written. Published articles may be accepted by the department instead of a dissertation.

Some teaching experience at Clark, or such other teaching as the department may regard as equivalent, is prerequisite to the doctor's degree.

COURSES

10 ISSUES AND PERSPECTIVES

By analysis of important current policy issues, the student is introduced to the vital contribution economics can make to systematic thought and understanding. Rather than emphasizing economic theory, the course begins with issues in the social sciences that are of obvious and important concern. From a study of issues, the course proceeds to show how development and use of some very basic economic concepts can aid materially in the analysis. Open to freshmen. Multiple sections.
Semesters 1, 2 Staff

11 PRINCIPLES OF ECONOMICS

This is an introduction to economic analysis. This course develops a basic set of economic concepts utilized in the "200"-level courses offered in the department. Basic elements of price and income theory are emphasized. Policy questions are treated both to reinforce concepts and to illustrate applicability of the analysis. Open to freshmen. Prerequisite: Economics 10.
Semesters 1, 2 Staff

88 DIRECTED READINGS

Offered for variable credit.
Semesters 1, 2 Staff

89 SPECIAL PROJECTS

Offered for variable credit.
Semesters 1, 2 Staff

109 SOCIALIST THOUGHT

This is an exposition of socialist economic theory as a coherent body of knowledge uniquely suited to the analysis of major socioeconomic issues.
Semester 2 Mr. Shakow

113 MONETARY ECONOMICS: THEORY AND POLICY

The theory of money and its role in the modern economy is examined as are determinants of the supply of money and analysis of the role of monetary policy in stabilization policy.
Semester 2 Mr. Weinrobe

121 INTRODUCTION TO ACCOUNTING PRINCIPLES

This is a first course in financial accounting designed to meet academic needs of: (a) students who will take only one course in accounting to obtain a good understanding of financial information such as that which appears in standard financial reports, (b) students who will be interested in work in managerial accounting as well as financial accounting, (c) students who will continue the study of accounting in intermediate and advanced courses. This course may be considered the equivalent of Management 201, Introduction to Accounting; a student cannot receive credit for both courses.
Semesters 1, 2 Mr. Nicholson

122 CORPORATE FINANCE AND INVESTMENT PRINCIPLES

This course is an introduction to principles of business finance and investment. The course begins with an analysis of the finance function in business and concludes with a study of investment principles viewed from the standpoint of both the firm and the investing public. Topics covered in connection with the finance function include factors affecting need for funds and sources of funds. Study of investment principles focuses on appraisal of capital investment opportunities and the nature and functioning of capital markets, such as the organized exchanges for stocks and bonds. This course may be considered the equivalent of Management 240; a student cannot receive credit for both courses. Prerequisite: Economics 121 or permission of the instructor.
Semester 1 Mr. Nicholson

123.4 SPECIAL PROBLEMS: ENVIRONMENT AND ENERGY

This is an analysis of major problems that have arisen as a result of environmental concerns and the energy shortage. Analysis will be placed on problems stemming from external diseconomies, supply demand disequalibria, and technological change.
Not offered 1979–80 Mr. Shakow

123.5 CONTEMPORARY POLITICAL ECONOMIC PROBLEMS: OPINION AND ANALYSIS

Refer to course description under Government 123.5.
Semester 1 Mr. Van Tassel, Mr. Taylor

124 ECONOMIC THOUGHT AND MODERN CIVILIZATION

This course is broadly interdisciplinary. It emphasizes the relationship between economics and related areas, such as philosophy, ethics, political science, sociology, mathematics, and statistics. Beginning from the perspective of economic thought, the course traces developments in economic analysis, showing how economic analysis has affected and been affected by the contact with other disciplines. The course considers how modern economic thought has come to diverge in essential aspects from the ideas of social philosophers like Adam Smith and Karl Marx and emphasizes what scientific economic analysis does and does not enable us to understand about modern social problems and issues.

Semester 1 Mr. Nicholson

126 PUBLIC POLICY TOWARD BUSINESS

This course examines the various types of industrial organization, the degrees of monopoly in competition, and the development of public policies that affect business. Among issues traced will be the development of anti-monopoly regulation, consumer protection, and public utilities. Business performance and government regulation will be related to criteria from economic theory.

Semester 2 Mr. Veendorp

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT

This course will be a review of political economic problems associated with such natural resources as agricultural land, energy goods, and minerals—as well as a resource common to all of us, our natural environment. Typical issues to be analyzed include the assessment of environmental impacts within a market oriented economy, the potential role of international cartels in resource allocation, and the assessment of nuclear generation from an economic standpoint. See also STS 155.

Semester 2 Mr. Shakow

160 INTRODUCTION TO STATISTICAL ANALYSIS

This course examines basic concepts and techniques of statistical method in economic analysis: descriptive statistics, permutation and combination, an introduction to probability theory, sampling distribution, standardized normal distribution and other related distributions, simple and multiple regression, simple forecasting and statistical decision-making.

Semester 1 Mr. Puffer

176 COMPARATIVE ECONOMIC SYSTEMS

Many different political and economic systems exist in the world. Most systems are continually undergoing changes that gradually, but importantly, affect their performance. This course surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Mixed economies, market socialist economies, and centrally planned economies are examined.

Semester 1 Mr. Hsu

177 CHINESE ECONOMY

This course is a comprehensive survey of the Chinese economy—its development, institutions, and policies. The major topics to be covered are: (1) Economic Heritage; (2) Maoist Economic Development: Ideology and Strategy; (3) Rural and Agricultural Development; (4) Industrial Development; (5) Planning and Resource Allocation; (6) Human Resources: Population, Health Care, Education; (7) International Economic Relations.

Semester 2 Mr. Hsu

205.1 MICROECONOMIC THEORY

The objective of the course is to describe and analyze how a market-

oriented economy functions in answering the five basic economic questions. These are: (a) What commodities to produce? (b) How much of each to produce? (c) What productive techniques to use and how to provide incentive? (d) How to distribute the output among the various members of society? (e) What provision to make for the future? Interspersed with the theory, the course contains frequent examples that demonstrate the use of microeconomics in solving problems faced by the decision-making unit in both the private and public sectors.
Semester 1 Mr. Staff

205.2 MACROECONOMIC THEORY

This course focuses on the forces that affect the overall performance of the economy. It is a study of the determinants of economic activity (such as consumption, investment, government purchases, and exports); measures of economic performance (such as the level and rate of growth of national income and product, the level of employment and unemployment, the general price level, and the nation's balance of international payments). In addition, the course deals with specific, current economic problems facing the U.S., discusses public policies instituted to deal with them—their success or failure—and the repercussions of some of these policies on world economies.
Semester 2 Mr. Puffer

207 INTERNATIONAL ECONOMICS

This course applies and develops concepts of economic theory to such questions as: determinants of international and regional specialization and trade, the theory of tariff intervention, the balance of payments, adjustment forces and disequilibria, and application of theory to important issues of international trade.
Semester 1 Mr. Van Tassel

208 INTERNATIONAL FINANCIAL DEVELOPMENTS

This course traces the development, roles, importance, and problems in international finance. A multinational world requires an efficient international financial system. Yet, design of a system that permits orderly international trade and retains national identity and autonomy in vital areas of policy is a difficult and incomplete task. Formerly Economics 108.
Semester 2 Mr. Van Tassel

209 MARXIST ECONOMIC THEORY

This is an introduction to Marxist Economic Theory. A comparison will be made between the development of Marxist and neoclassical economic analysis. Prerequisite: Economics 11 and permission of instructor.
Not offered 1979–80 Mr. Shakow

215 PUBLIC EXPENDITURES

This course examines issues and priorities related to the size and composition of public expenditures. Evaluation of the federal budget expenditures according to criteria of cost-benefit analysis and cost effectiveness. Property rights, third party effects and how public policy deals with them are also examined.
Semester 1 Ms. Ott

216 TAX SYSTEMS AND POLICIES

This course outlines federal taxes and tax policies in the United States. It

explains emerging issues in federal taxation—tax equity, the effect on income distribution, the relative tax burden of the rich and the poor and tax reforms—and discusses alternative solutions. Taxes as a tool for economic stabilization and growth are also analyzed. Prerequisite: Economics 11 or permission of instructor.
Not offered 1979–80 Ms. Ott

224 HISTORY OF ECONOMIC DOCTRINE

Economic thought profoundly influences modern society even when it is not well understood. Policy-makers are affected by economic thought in ways that are not always fortuitous. The great English economist, Lord Keynes, has written, "Madmen in authority who hear voices in the air are distilling their frenzy from some academic scribbler of a few years back." This course is a survey of developments in economic thought. It traces the sense in which economics has evolved as a science—a method of thinking clearly about complex and important social problems. Attention is also paid to the influence of economic thought on noneconomists—on policy-makers and general citizens.
Not offered 1979–80 Mr. Nicholson

228 ECONOMIC DEVELOPMENT

This course will examine the major theories of economic development, the major problems confronting the less developed countries, and the policies and strategies appropriate for economic development. The purposes are to show the relevance of economics in international development, to promote an understanding of the problems of the less developed countries, and to help provide analytical skills useful to students interested in a career in international development.
Semester 1 Mr. Hsu

231 ELECTRICITY PLANNING AND DECISION-MAKING

Refer to course description under STS 231.
Semester 1 Mr. Shakow, Mr. Ducsik

250 ECONOMICS OF EDUCATION

This course is an economic analysis of the education industry. Among topics examined are: rate of return on educational investment, composition of supply and demand, problems in manpower planning, organization, and the varied roles and rationales for government intervention in education. Prerequisite: Economics 11.
Not offered 1979–80 Mr. Van Tassel

255 INCOME DISTRIBUTION: THEORIES AND POLICIES

This course will survey theories of income distribution and inequality in the U.S. The course will also discuss policy issues dealing with income redistribution. Prerequisite: Economics 11; preferably Macro or Micro theory (205.1 and 205.2).
Semester 2 Ms. Ott

260 INTRODUCTION TO MATHEMATICAL STATISTICS

This is an introduction to the theory of statistics from the managerial point of view. Economics 271 should be taken concurrently.
Semester 1 Mr. Shakow

265 BASIC ECONOMETRIC THEORY
This course is an introduction to econometric methods, statistical inferences and testing hypotheses, model-building technique and theoretical justification of the model, and the estimation method used. Various estimation methods will be presented and evaluated in terms of their performance and validity in economic empirical studies.
Semester 2 Mr. Shakow

266 APPLIED STATISTICS AND ECONOMETRICS
This course studies integration of statistical concepts with the estimation and forecasting of economic variables: estimation of production function, cost analysis, quality analysis, linear programming, input-output method, estimation of aggregate supply and demand function, model for national economy. Prerequisite: Economics 265.
Not offered 1979–80 Mr. Shakow

269 ECONOMIC HISTORY
This course provides an introduction to the economic history of the developed capitalist countries.
Not offered 1979–80 Mr. Shakow

271 INTRODUCTION TO MATHEMATICAL ECONOMICS
An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: permission of instructor. Offered for variable credit.
Semester 1 Mr. Veendorp

277 REGIONAL ECONOMICS
This course examines theoretical and practical aspects of economic development, cyclical changes and trade between regions of the United States. Location theory, growth trends, wage and income differentials, structural unemployment, and inequalities in income distribution are considered. Interregional input-output tables are emphasized. Prerequisite: Economics 11.
Semester 1 Mr. Puffer

280 JUNIOR HONORS
Designed to assist honors candidates in integration of the field. Offered as a full course.
Semester 2 Staff

281 SENIOR HONORS
Offered for variable credit.
Semesters 1, 2 Staff

282 HONORS
Eligible students selected by the department may work off campus for a summer and a semester as junior professional economists in business, government, or industry and receive academic credit. Offered for variable credit.
Semesters 1, 2 Staff

299.9 INTERNSHIP

Students spend a semester working full or part time outside the University as part of their academic experience. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent systematic academic work in Economics. Offered for variable credit.

Semesters 1, 2 Staff

301.1 ECONOMIC THEORY—MICRO

Offered as a full course.

Not offered 1979–80 Mr. Veendorp

301.2 MICROECONOMICS

Offered as a full course.

Semester 2 Ms. Ott

302.1 ECONOMIC THEORY—MACRO

Offered as a full course.

Semester 1 Ms. Ott

302.2 MACROECONOMICS

Offered as a full course.

Semester 2 Mr. Puffer

313 SEMINAR IN MONETARY ECONOMICS

Offered as a full course.

Semesters 1, 2 Mr. Weinrobe

325 PUBLIC FINANCE SEMINAR

Offered as a full course.

Not offered 1979–80 Ms. Ott

326 INDUSTRIAL ORGANIZATION SEMINAR

Offered as a full course.

Semesters 1, 2 Mr. Veendorp

327 INTERNATIONAL TRADE SEMINAR

Offered as a full course.

Not offered 1979–80 Mr. Van Tassel

328 ECONOMIC DEVELOPMENT

Offered as a full course.

Not offered 1979–80 Mr. Hsu

390 DISSERTATION SEMINAR

Offered as a full course.

Semesters 1, 2 Mr. Shakow

Education

DEPARTMENT FACULTY

Helen J. Kenney, Ed.D., Professor of Education, Department Chair
David S. Zern, Ph.D., Associate Professor of Education, Adjunct in Psychology
Marcia A. Savage, Ed.D., Assistant Professor of Education, Dean of the College
William E. Topkin, Ed.D., Assistant Professor of Education, Dean of Students*
Maida Follini, Ph.D., Visiting Lecturer in Special Education
Nancy Amstutz, Ed.D., Lecturer in Education
William C. Kvaraceus, Ed.D., Professor of Education (Affiliate)
Eleanor R. Moosey, Ed.D., Assistant Professor of Education (Affiliate)
Barbara R. Calveric, Ph.D., Assistant Professor of Education (Affiliate)
Gaston Schaber, Ph.D., Director, Pedagogic Institute, Luxembourg, Professor of Comparative Education (Affiliate)

With the cooperation of:

Roger C. Van Tassel, Ph.D., of the Department of Economics
Virginia Mason Carr, Ph.D., and James Macris, Ph.D., of the Department of English
Walter Schatzberg, Ph.D., and Gale Nigrosh, M.A.T., of the Department of Foreign Languages and Literatures
Duane S. Knos, Ph.D., of the Graduate School of Geography
Richard B. Ford, Ph.D., of the Department of History
William A. Koelsch, Ph.D., of the Departments of Geography and History
Robert N. Beck, Ph.D., and Gary E. Overvold, Ph.D., of the Department of Philosophy
Roger Bibace, Ph.D., of the Department of Psychology
Edward E. Sampson, Ph.D., of the Department of Sociology
Anthony W. Hodgkinson, and Donald W. Krueger, M.F.A., of the Department of Visual and Performing Arts

Clinical Instructors in Education:

Hessa Miller, M.A.
Kenner Myers, M.S.
Margaret C. Vogel, M.A.

Clinical Instructors in Education (Affiliate):
Roland E. Charpentier, M.Ed.
Thomas P. Friend, M.Ed.
David Kneeland, M.A.
Elinor M. McKeon, M.Ed.
Alexander J. Radzik, M.Ed.

*On leave 1979–80

UNDERGRADUATE PROGRAMS

Undergraduate education constitutes a major part of the work of the department. In conformity with its policy of emphasizing the importance of the liberal arts as a basis for educational practice, the department offers its courses and programs as electives, not as an undergraduate major. During their first two years at Clark, students in education lay a broad foundation of scholarship in the areas in which they wish to specialize. However, a limited number of education courses are available to freshmen and sophomores to provide general background and to lead into the organized programs given at the sophomore, junior and senior year levels.

The various undergraduate programs are designed for students interested in preparing for careers as educators in traditional and nonschool settings such as family life institutes, day care centers, youth organizations, courts, clinics, hospitals, correctional and rehabilitation institutions, and social service agencies. In conjunction with various academic departments, the following programs are provided through integrated course work and field experiences:

1) Internship Module in Elementary/Early Childhood Education
2) Internship Module in Secondary Education in various subject fields and in special subjects such as Art, Theater, Media Studies, Music, and Bilingual Education
3) Internship Module in Special Education
4) Psychoeducational Clinician Sequence

In addition, modules may be individually designed for students interested in the new opportunities for educators emerging in the varied fields of human services. Selected education components may be taken as part of the Clark program at the Pedagogic Institute, Luxembourg.

The internship programs serve as a transition to professional study at the graduate level and for entry into beginning teaching and specialist positions. The elementary level teacher education program has been approved by the Interstate Certification Compact, a legally based certification reciprocity agreement between Massachusetts and 31 other states and the District of Columbia. The special education sequence, taken as an extension of the regular teaching module, leads to approval in Massachusetts for teaching children with moderate special needs. The secondary level teaching module leads to certification in Massachusetts.

The internship modules and sequences are limited to students who have completed major requirements at a satisfactory level of scholarship. The decision to elect one of the organized programs must be made during the sophomore year, be approved by the Department of Education, and for secondary school and special subject teaching, must be approved in addition by the appropriate academic department for competency in subject matter areas.

Students interested in professional education are encouraged to consult with some member of the department early in their careers at the University to discuss overall program planning.

GRADUATE PROGRAMS

The department offers one program leading to the degree of master of arts in education and another leading to the degree of doctor of education. Both graduate programs of study are primarily oriented toward training in those educational activities and services required to meet the special needs of learners who are different because of their individual abilities or because of their sociocultural or economic backgrounds.

MASTER OF ARTS IN EDUCATION

This degree program is designed to extend the professional training of experienced educational practitioners. The program may be used to enrich the general theoretical background relevant to a candidate's area of educational practice and to develop new professional skills in individually tailored program concentrations. Master's candidates concentrate their work in areas where there is depth in course offerings available through the facilities of the Department of Education and cooperating academic departments in the University. Clusters have been worked out in special education, early childhood education, academic subject fields, environmental education, bilingual and multicultural education.

Admission Requirements

In addition to the general Graduate School admission requirements, a personal interview is usually required by the Department of Education in order to determine the fit between the program resources and a candidate's goals and interests.

Degree Requirements

The course of study consists of a minimum of eight full course units with an additional requirement to be completed by one of three options: (a) an acceptable thesis, (b) the master's seminar in which an independent major paper will be prepared and presented to fellow graduate students and members of the staff, or (c) two additional full courses. The passing of a final oral examination is required of all candidates.

DOCTOR OF EDUCATION

The doctor of education degree program is an organized, part-time course of study, extending over a three year period, which enables mid-career practitioners to obtain advanced professional training without unduly disrupting their work in the field. The program is planned for the experienced educator of proven ability who expects to assume high-level responsibility in administrative, planning, training, and evaluation roles in schools, government agencies, private organizations, or institutions of higher learning

All doctoral students complete a core curriculum aimed at imparting a basic understanding of the analytic techniques, the social and behavioral determinants, and the management principles that will contribute to the development of new solutions to significant problems in special education. The student then selects one of two program options: the learning specialist or the administrator-planner. The two are closely related. The learning specialist, as a social and psychological analyst, is concerned with what goes into the development of a program for a particular learner or group of learners; the administrator-planner is an educational analyst with the task of forging the mechanism to do the job.

Two year-long practica with concurrent seminars are arranged, using the student's employment setting or an alternative placement. During the first year in the practicum/seminar, the student will focus on a specific topic of educational theory or practice as a basis for an analytic paper. During the second year in the practicum/seminar, the student will design and implement a specific project of theoretical and practical educational relevance. For example, the student may plan and implement a staff development program, conduct a small scale institutional research study, design a new curriculum, etc. In the third year, the student typically will complete the required dissertaton.

The small and select group of graduate students insures the advantages of program flexibility with much opportunity for close and continued contact between staff and students. All program designs have a significant degree of individuality, reflecting the past training and experience and the present goals of the students. The individual study plan is developed within a framework of departmental, University, and field resources.

Admission Requirements

Admission to the doctoral program requires the completion of an acceptable baccalaureate and master's degree, either at Clark or elsewhere. Students who obtain their master's degree with the department at Clark, and who wish to continue their doctoral studies in the department, must apply for continued study at the doctoral level.

A candidate must give satisfactory evidence of aptitude and capacity for graduate study as reflected in academic achievement and aptitude tests (either the Miller Analogies or the Graduate Record Examination). Professional experience which demonstrates a high level of competence and leadership ability, is also required.

Degree Requirements

Minimal requirements for candidates at the doctoral level demand two years of graduate study beyond the master's level. Courses completed elsewhere will be evaluated and accepted in transfer if shown to be comparable in content and level of training to those required in the program. A doctoral candidate must pass comprehensive examinations at the end of course work and complete a doctoral dissertation.

COURSES

88 DIRECTED READINGS—UNDERGRADUATE

Offered for variable credit.
Semesters 1,2 Staff

150 SEMINAR IN MATHEMATICAL CURRICULUM METHODS AND MATERIALS

Methods and materials are taught: (1) to acquaint the student with various methods of approach for theories on teaching math on the secondary school level, and (2) to give the student a pre-student-teaching experience. While conducting mini-courses in math in local high schools, the seminar discusses articles concerned with teaching math, the relationship of the theories to the practice, the problems that are encountered within the mini-courses, and methods of teaching math. Various field trips and guest speakers will be included.
Semester 1 Staff

192 LANGUAGE IN SOCIAL CONTEXT

Refer to course description under Linguistics 192. Also offered for credit under Comparative Literature 192.
Not offered 1979-80 Ms. Nigrosh

201.1 EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF CHILD DEVELOPMENT

This course examines principles of child development with emphasis upon maturation and learning in the elementary school years. Recommended for those planning to take the Internship Module.
Semester 1 Mr. Zern

201.2 EDUCATIONAL PSYCHOLOGY: PRINCIPLES OF ADOLESCENT DEVELOPMENT

Principles of adolescent development are examined with special emphasis upon learning and personality development in the secondary school years. It is recommended for those planning to take the Internship Module.
Semester 2 Mr. Zern

201.3 EDUCATIONAL PSYCHOLOGY: CONTEMPORARY ISSUES IN EDUCATION

This is an introduction to some contemporary issues in education and an overview of theoretical and research literature which may give insight into developmental and educational processes. The emphasis will be on "why" (within the framework of educational settings) rather than "how to." It is recommended for those planning to take the internship module and who are working with the younger child.
Modular Term Mr. Zern

201.4 EDUCATIONAL PSYCHOLOGY: SPECIAL TOPICS IN SECONDARY EDUCATION

Individual or small groups of students will study, discuss, and report on topics of central importance to education during the adolescent years. Offered for variable credit.
Semesters 1,2 Ms. Savage

202 SMALL GROUP AND INTERPERSONAL WORKSHOP

Refer to course description under Sociology 205b.
Semester 1 Mr. Sampson

205.2 EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR

Refer to course description under Geography 205.2
Semester 1 Mr. Knos, Staff

206 AUTOBIOGRAPHY WORKSHOP

Refer to course description under Geography 206. Also offered for credit as International Development 206. Offered for half credit.
Semester 1 Mr. Knos

209 SIMULATION AS A LEARNING DEVICE

Refer to course description under Geography 209.
Semester 2 Mr. Knos

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING

A dual focus is on: (1) illustration and analysis of various cognitive and social interpersonal models of human behavior in the classroom setting, and (2) introduction to and development of skills involved in systematic observational methodologies, with the classroom as the natural setting in which the work is done. Students carry out a series of assigned observational tasks and execute their own individual projects.
Semester 2 Mr. Zern

216 EARLY DEVELOPMENTAL PROCESSES: THEORY AND PRACTICE

This is a selective consideration of some basic theoretical models of normal

human development, analyzing their implications for understanding the determinants of behavior in infancy and early childhood and their consequences in later development, particularly in terms of various developmental deviations. Students will observe normal and "special" children of various ages (infancy through adolescence) in various home and institutional settings. Classroom discussions and assignments will focus on relating the theory to the behaviors observed in the field.
Not offered 1979-80 Mr. Zern

230 CREATIVE ARTS IN EDUCATION

This is a seminar-workshop course, exploring and developing specific techniques for using music, visual experiences, and drama as tools to help children learn.
Semesters 1, 2 Academic Departments, Staff

234 FIELD PROJECTS

This course provides individualized and extended experiences in a wide variety of agencies and institutions involving the education and comprehensive care of children and youth. Supervision is provided by the University and field agency personnel; combines related seminars and conferences as a basis for critical analysis of the experiences within the context of applied theory and practice. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

234.1 FIELD PROJECTS: SPECIAL EDUCATION

This is an introductory practical experience in a school or agency setting, working under supervision with children with special needs. Students will be placed in resource rooms, special classrooms, and rehabilitation agencies, where they will tutor individuals or small groups, under the direction of a teacher or staff member. Prerequisite or corequisite: Education 291. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

234.2 FIELD PROJECTS: PRE-INTERNSHIP MODULE EXPERIENCE

This is an introductory practical experience in a regular school setting; required for Education 287. Offered for variable credit.
Semesters 1, 2 Ms. Miller

241 SEMINAR: HISTORY OF AMERICAN HIGHER EDUCATION

Refer to course description under History 246.
Semester 1 Mr. Koelsch

243 SEMINAR IN LEARNING PROBLEMS AND INDIVIDUALIZED EDUCATIONAL PLANNING

An in-depth study of learning problems resulting from specific learning disabilities, emotional disturbance, and intellectual impairment; educational prescription and instructional planning to meet specific needs. Prerequisite: permission of instructor. Limited to seniors.
Semester 2 Ms. Holland

244 LANGUAGE AND SPEECH: DEVELOPMENTAL DEVIATIONS

This course traces the normal course of language and speech development in the young child, with attention to deviations in the development of

communication associated with handicapping conditions. Offered for half credit.
Semester 1 Ms. Follini

249 THE HELPING RELATIONSHIP

For students interested in entering the helping professions (education, human services), this course will explore the relationship between helper and client. The role and status differences between helper and client will be considered. Interpersonal skills to increase mutual understanding and reduce defensiveness and attitudinal barriers will be developed. The focus will be on learning interview techniques in an effort to identify problems and solutions. Components of the interview will be discussed and practiced: establishing a relationship, listening skills, structuring the interview, exploration, clarification, and identifying directions for action. Readings will include selections from Carl Rogers, Alfred Adler, Rudolf Dreikurs, Robert Carkhuff, and Don Dinkmeyer. Students will practice skills in weekly lab sessions to be arranged.
Modular Term Ms. Follini

250 ECONOMICS OF EDUCATION

Refer to course description under Economics 250.
Not offered 1979–80 Mr. Van Tassel

260 LINGUISTICS AND LANGUAGE LEARNING

Refer to course description under Linguistics 260. Prerequisite or corequisite: Linguistics 114, for which substitutes may be available if the instructor is consulted well in advance; permission of instructor. Offered in alternate years.
Not offered 1979–80 Staff

261 TESTS AND EVALUATION: THEORY AND TECHNIQUES OF MEASUREMENT AND APPRAISAL

The student gains a basic understanding of measurement concepts (validity, reliability, standardization, descriptive statistics) and a familiarity with techniques of achievement and ability assessment. Each student practices administering group and individual psychoeducational techniques and procedures.
Semester 1 Ms. Amstutz

262 TESTS AND EVALUATION: PRACTICUM AND SEMINAR

The course provides supervised psychoeducational diagnostic and assessment training and experiences in schools or child/family welfare agencies. Prerequisite or corequisite: Education 261.
Semesters 1, 2 Ms. Amstutz

263 INDIVIDUAL ASSESSMENT OF MENTAL ABILITIES

This course involves theory and intensive experience in administering and interpreting individual tests of intelligence, with major emphasis on Stanford-Binet Revision and Wechsler Intelligence Scales. It emphasizes mechanics of administration and interpretation for use of test results in educational settings. Prerequisite or corequisite: Education 261
Semester 1 Ms. Amstutz

265 TEACHING ENGLISH AS A SECOND LANGUAGE

Refer to course description under English 295.
Semester 2 Mr. Macris

272 INTERNSHIP TEACHING

This is an intensive period of observation and teaching in a secondary level or special subject field in which the student plans to teach. Individual supervision is given by the academic department and by a teacher in a cooperating school. Prerequisite: permission of both the academic and education departments. Offered for one and one half course credits.
Semesters 1, 2 Academic Departments, Staff, Cooperating Teachers

272. (2-8) SEMINAR IN STUDENT TEACHING

This is a conference course running concurrently with student teaching at the secondary level and in special subject fields. The seminar aims to develop the student's problem solving ability as it relates to the specific issues and concerns of the classroom. Offered for half credit.

272.2 Seminar in Teaching Foreign Language
272.3 Seminar in Teaching Social Studies
272.4 Seminar in Teaching Science
272.5 Seminar in Teaching Art
272.6 Seminar in Teaching Theater
272.7 Seminar in Media Studies
272.8 Seminar in Teaching Music
Semesters 1, 2 Academic Departments

273 SEMINAR IN CURRICULUM AND METHODS IN MATHEMATICS TEACHING

Offered as a full course.
Semester 2 Staff

279 SMALL GROUP AND INTERPERSONAL PROCESSES

Refer to course description under Sociology 291b.
Semester 1 Mr. Sampson

282 INSTRUCTION AND CURRICULUM DEVELOPMENT: PRINCIPLES AND PRACTICE

This course is an introduction to the fundamentals of the instructional process and curriculum planning in subject fields. Offered for one half credit, first half of semester.
Not offered 1979–80 Staff

282. (2-8) INSTRUCTION AND CURRICULUM IN SUBJECT FIELDS

The course covers principles of curriculum development and teaching in specific and special subject fields. Offered for one half course credit, second half of semester.

282.2 Instruction and Curriculum Development in Foreign Languages
282.3 Instruction and Curriculum Development in Social Studies
282.4 Instruction and Curriculum Development in Science
282.5 Instruction and Curriculum Development in Art
282.6 Instruction and Curriculum Development in Theater
282.7 Instruction and Curriculum Development in Media Studies
282.8 Instruction and Curriculum Development in Music
Not offered 1979–80 Academic Departments

286 SEMINAR IN THE REHABILITATION OF THE HANDICAPPED CHILD

This is a review of the rehabilitation process from the identification of abilities and disabilities, through psychological, medical, social, and educational interventions, to help the individual maximize his/her potential. Offered for half credit.

Semester 1 Ms. Follini

287 INTERNSHIP MODULE IN ELEMENTARY EDUCATION

This integrated internship provides an intensive work-study experience in elementary schools and other educational agencies in the Worcester area. It involves theoretical course work; a full-time supervised experience in schools or in some other educational agency; and related workshops, seminars, and conferences. The elementary module provides credit in the following areas: student teaching (two full courses including the professional teaching seminar) with three half-courses distributed to cover curriculum, methods, and materials of instruction in the basic elementary school program. Limited to seniors who will have completed major requirements and whose grade point average reflects high level of scholarship. Students contemplating internships must make application at the beginning of their junior year. Offered for three and one half credits.

Semesters 1, 2 Ms. Kenney, Staff, Cooperating Teachers

290 PHILOSOPHY OF EDUCATION

This course examines the aims, processes, and materials of education, with special reference to the influence of philosophical ideas on educational problems. The course also is listed for credit as Philosophy 290.

Semester 1 Mr. Beck

291 DEVELOPMENTAL DEVIATIONS: LEARNING PROBLEMS AND EDUCATIONAL INTERVENTIONS

This course is a survey of the various deviations from typical development, and an introduction to the field of special education. Special needs of children who are gifted, and those who have learning problems related to mental retardation, emotional disturbance, sensory and orthopedic impairments, specific learning disabilities, communication problems, and behavioral disorders will be studied. Observations in several special educational settings will be required, as well as a written term project. It is recommended that this course be taken concurrently with Education 234.1

Semester 1 Ms. Follini

292 SEMINAR AND PRACTICUM IN SPECIAL EDUCATION

The student works under the close direction of a cooperating teacher, for 12 to 15 hours a week in a special educational setting (resource room, special class, special agency). A concurrent weekly seminar considers specific learning problems and educational interventions appropriate to particular handicapping conditions, such as mental retardation, specific learning disabilities, and emotional disturbance. Prerequisite: Education 234.1, Education 291, permission of instructor.

Semester 2 Ms. Follini

293 WORKSHOP IN SECONDARY ENGLISH CURRICULUM

Refer to description under English 293.

Semester 1 Department of English Staff

294 MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH

Refer to course description under English 294.
Semester 2 Department of English Staff

295 METHODS OF ART EDUCATION

This is a practical, experiential introduction to art and design education materials, methods, and skills as applied to realistic classroom situations.
Not offered 1979–80 Mr. Krueger, Staff

296 PSYCHOEDUCATIONAL CASE STUDIES

This course considers psychoeducational assessment of the individual child with educational planning. Prerequisite: Education 261, 262, 263.
Semester 2 Ms. Amstutz

297 PATTERNS OF CHILD-REARING: A CROSS-CULTURAL ANALYSIS

The course offers an analysis of various subcultural and cross-cultural patterns of child-rearing, dealing with both similarities and differences within the human species. The materials for this consideration will be both theoretical (particular emphasis on Freud and F. Kluckhohn) and descriptive case studies such as Walden II, day care and higher education, and the kibbutz.
Not offered 1979–80 Mr. Zern

298 SUPERVISED STUDENT TEACHING IN SPECIAL EDUCATION

(Formerly Education 289) The student spends 10 hours a week for 14 weeks in a setting serving children with special needs. Following the previous student teaching experience, the student is now expected to show competencies on an advanced level and function with a high degree of responsibility. Prerequisite: Education 287 and required Special Education sequence.
Semester 2 Staff, Cooperating Teachers

300 GRADUATE INTERNSHIP IN EDUCATION

Offered for variable credit.
Semesters 1, 2, Modular Term Staff

301 DIRECTED READINGS

Offered for variable credit.
Semesters 1, 2, Modular Term Staff

302 RESEARCH IN EDUCATION

Offered for variable credit
Semester 1 Staff

304 CURRICULUM AND INSTRUCTIONAL SYSTEMS

This course considers the theoretical bases of curriculum and examines various instructional methodologies in detail.
Semester 2 Ms. Kenney

305 COGNITIVE FACTORS IN THE EDUCATIVE PROCESS

This is a selective review of major theories of cognitive functioning focusing on dynamics within the individual. Piaget, Skinner, R. White,

Freud's secondary processes, and Wertheimer will be studied.
Not offered 1979–80 Mr. Zern

312.1 INTRODUCTION TO THEORIES OF COUNSELING

Emphasis will be upon the theory and methodology of counseling and upon the management of typical counseling problems. The diagnosis and referral of behavior disorders and related personality maladjustments will be considered. Case material will be presented and analyzed.
Not offered 1979–80 Mr. Topkin

312.2 COUNSELING PRACTICUM

Students will experience field placement in Worcester area schools and weekly seminars. Relevant readings will be required. Prerequisite: Education 312.1.
Not offered 1979–80 Mr. Topkin

338 BILINGUAL EDUCATION

The course considers theoretical and practical issues in designing, implementing, and evaluating programs for children who are receiving bilingual education.
Semester 2 Staff

343 ANALYSIS OF THE RESEARCH PROCESS

The course focuses on two salient dimensions of dealing with research in the social sciences: (1) understanding the structure and intent of a research report, and (2) understanding and being able to use basic statistical techniques. The form of the course will consist of the careful analysis of existing educational research. Each source will be considered in terms of particular elements in its overall structure, including hypothesis formation, operationalization of major terms, research design, etc. In addition, particular statistics in each article will be systematically considered, so that students are led to an understanding of an ability to use major statistical techniques. A full year course.
Semesters 1 and 2 Mr. Zern

345 RESEARCH AND EVALUATION IN EDUCATION PROGRAMS

This course explores the multiple roles of research and evaluation in developing and improving educational programs, emphasizing the effective use and design of needs assessment, policy research, program implementation research, and impact evaluation. Members will develop a research design for their own professional setting.
Semester 2 Ms. Kenney

366 SEMINAR IN COLLEGE CURRICULUM DESIGN

Refer to course description under Geography 366.
Semester 2 Mr. Knos

371 THESIS

Offered for variable credit
Semesters 1, 2 Staff

372 THESIS SEMINAR

Offered for variable credit.
Semesters 1, 2 Mr. Kvaraceus

380 DEPARTMENTAL SEMINAR ON CONTEMPORARY EDUCATIONAL PROBLEMS AND ISSUES

This course is designed for master's degree candidates who are not writing a thesis. It requires a major paper.

Semester 2 Ms. Kenney, Staff

381 THE SOCIAL CONTEXT OF EDUCATION

This course reviews and analyzes social and cultural theories that provide an understanding of the process of education. Levels of interaction under consideration will be the classroom, the school, and the community. Patterns of educating will be considered within a cross-cultural context, and tools will be provided to facilitate such analyses.

Not offered 1979–80 Mr. Zern

382 FOUNDATIONS OF SPECIAL EDUCATION

This course, for graduate students only, focuses on selected major contributions to the field of special education from Medicine, Psychology, and Education. Works by Itard, Montessori, Dewey, Adler, Werner, and Wolfensberger will be read. Each student will, in addition, analyze a selection from the special education literature on a topic of his/her choice. Major problems in special education will be dealt with from the theoretical and practical points of view, including: the relationship of higher mental processes to the sensory-motor and perceptual processes, holistic approaches versus analytical approaches to teaching, remediation of deficits versus bypass approaches, special treatment versus normalization. The objective for the course is for the advanced student to broaden and deepen his/her theoretical background in the effect of theory on practice in special education.

Semester 1 Ms. Follini

383 HUMANITIES SEMINAR: LEARNING AND KNOWING

An interdisciplinary study of the variety of ways we learn and know. The focus for this will be a consideration of the various and often conflicting views of the ideal of the educated person. Offered during Clark University summer term.

Mr. Overvold

384 PRACTICUM AND SEMINAR I

A practicum with a concurrent seminar related to the student's own professional work setting or an alternative placement intended to enable the student to explore the theoretical basis and empirical research in a selected educational problem area. Students will meet individually and in small groups with a senior educational practitioner. The results of the year's experience will be reported in a formal analytic paper. A full year course.

Semesters 1 and 2 Ms. Kenney and Affiliate Staff

385 PRACTICUM AND SEMINAR II

A second year practicum with a concurrent seminar related to the student's own professional work setting or an alternative placement intended to provide an experience in designing, implementing, and reporting a project of educational significance and relevance. Students will work individually and in small groups with a senior educational practitioner. A full year course.

Not offered 1979–80 Ms. Kenney and Affiliate Staff

386 CASE STUDIES IN PSYCHOEDUCATIONAL ASSESSMENT AND PLANNING

Psychoeducational assessment techniques are viewed in terms of their efficacy in presenting a picture of the exceptional child's abilities and needs and providing direction for educational planning. The process from child find, through screening, assessment, reporting and team evaluation, to the development of the educational plan will be reviewed critically.

Criteria for judging diagnostic instruments, educational planning, and programming for children with special needs will be developed. Viewpoints of the child, the family, and the school staff will be compared. Problems of interprofessional and professional-parent communication will be considered.

Semester 2 Ms. Follini

English

DEPARTMENT FACULTY

William H. Carter, Jr., Ph.D., Professor of English, Department Chair
Karl O.E. Anderson, Ph.D., Professor of English, Emeritus
James F. Beard Jr., Ph.D., Professor of English, Director of Graduate Studies**
Charles S. Blinderman, Ph.D., Professor of English
Serena S. Hilsinger, Ph.D., Professor of English
James Macris, Ph.D., Professor of English and Linguistics
Stanley Sultan, Ph.D., Professor of English***
Virginia Mason Carr, Ph.D., Associate Professor of English
Jessie C. Cunningham, Ph.D., Associate Professor of English, Emeritus
James P. Elliott, Ph.D., Associate Professor of English
John R. Conron, Ph.D., Assistant Professor of English
Leone Scanlon, Ph.D., Director, Clark Writing Center
Rocky C. Blunt III, M.A., Visiting Lecturer in English

Affiliated Staff

Arthur F. Kinney, Ph.D., Professor of English

**On leave Semester 1, 1979–80
***On leave Semester 2, 1979–80

UNDERGRADUATE PROGRAM

The English Department believes that it should provide courses taught by specialists in the major periods of English and American Literature and insist that, upon graduation, the English major have some background in most of these periods. The department feels that this background should include not only experience of the literature of these periods, but also some understanding of the historical and philosophical contexts in which the works were written. Ideally, an English major, upon graduation, should possess a sense of cultural history, a developed sensibility, and a knowledge of the major authors, works, and periods of English and American literature; also, the student should be capable of critical thinking and effective expression of that thinking. In sum, the student should have achieved a rigorous humanistic education.

To this end, the department provides certain elective and required courses for the first two years of the major. An elective, Introduction to

Literature (Eng 10), involves intensive training in "close reading" and in critical writing. An elective in Expository Writing (Eng 18) provides intensive work in composition. A survey of major figures, either British (Eng 100) or American (Eng 101) is required.

The department requires two courses focusing on the historical development of English literature. One is Eng 13, English Poetry; this course is required of all majors. The second requirement may be fulfilled either by Eng 154, English Fiction, or Eng 155, English Drama. During the sophomore year each major selects—in consultation with his/her adviser and other appropriate members of the staff—a suitable *area of concentration.* Within this framework, she/he will pursue a carefully integrated program of advanced study. To insure this careful integration, the department requires each major to consult with his/her adviser and obtain approval of his/her program at every registration period. The *interdisciplinary concentration* permits students to carry a second major (see II below).

For majors in their junior and senior years, the department provides a series of courses and seminars devoted to intensive study of specific periods and authors, courses that demand mature and critical thinking and require independent work which reflects the student's ability to deal with complex ideas and express himself/herself effectively. During these last two years, each student is also required to take one of two seminars specifically designed to achieve an integrating and synthesizing function—either Eng 297, Varieties of Literary Criticism, or Eng 298, The Mythopoetic Mode.

The above statement of policy is based, in part, upon identification of our majors:

1) Students with an interest in literature who wish a general education
2) Students who are preparing for primary or secondary school teaching
3) Students whose goal is graduate work in English or American literature.

To the first group—the program provides the background necessary for admission to and success in any graduate program, here or abroad, in English or American literature. To the second group—the program demands and emphasizes knowledge of subject matter and assumes that it is certainly as important as development of the skills, methods, and techniques of teaching. Moreover, in cooperation with the Department of Education, the department has worked out a meaningful concentration in Literature and English Education which leads to state certification. To the third group—because literature does not exist in a vacuum, cannot be experienced or taught in a vacuum—the program provides a history of mind, as much as it does the history of that specific manifestation of mind which is English literature.

I. BASIC PROGRAM FOR ALL ENGLISH MAJORS

Nonrequired Preparatory Courses:

Eng 10, Introduction to Literature
Eng 18, Expository Writing

General Requirements:

A. One full year Survey Course from the following:
   Eng 100a and b, Major British Writers
   Eng 101a and b, Major American Writers
B. Two Genre Courses:
   1. Eng 13, English Poetry (full course, Semesters 1, 2; recommended during freshman year)
   2. Either Eng 154a and b, English Fiction or Eng 155a and b, English Drama

These full year genre courses, like the surveys above, are developed chronologically to help consolidate the student's sense of period and of historical development.

C. One 200-level Seminar in Criticism:
   Eng 297, Varieties of Literary Criticism or Eng 298, The Mythopoetic Mode
   Both course offerings are designed to provide one kind of "capstone experience" and to develop key theoretical, analytical, and methodological skills.

D. Area Requirements:
   To help majors develop greater historical perspective and awareness of the range and variety of English and American literature, all majors must take at least:
   1. Two full courses or seminars dealing with English literature written before 1700. (One of these courses may be 100a, Major British Writers, or Eng 155a, English Drama.) The 200-level courses fulfilling this requirement include Eng 203, Medieval Literature; 206, Chaucer; 212a and b, Shakespeare; 215, Special Studies in Renaissance Drama; 216, Literature of the Renaissance; 220, 17th Century; 222, Milton and the Restoration Drama.
   2. Two full courses or seminars dealing with English or American literature written between 1700 and 1900. (One of these courses may be Eng 100b, Major British Writers; 101a or 101b, Major American Writers; 154a or 154b, English Fiction; or 155b, English Drama.) The 200-level courses fulfilling this requirement include: 226, The Augustans and the Age of Johnson; 236, British Romantic Literature; 238, Blake; 239, American Literary Renaissance; 242a and b, Victorian Literature; 244, Romantic and Victorian Gothic; 245, Darwinism; 247, Dickens; 249, Twain, Howells, and James; 279, American Landscapes; 254, Realism and Naturalism in American Fiction; 289, American Selves: Autobiography.

E. Every major's program must include at least four full (semester) courses at the 200-level in English, in addition to Eng 297 or 298.

II. INDIVIDUAL AREAS OF CONCENTRATION

In consultation with his/her adviser and other appropriate members of the staff, each major shall select — normally during the sophomore year — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study. Students wishing to double major may make the second major the basis for a concentration, applying it to the study of English language or literature in a project during the senior year.

III. HONORS PROGRAM

Qualified majors are encouraged to apply, in the spring of their sophomore year, to participate in the Honors Program in English. Further information is available from the department.

IV. CONSORTIUM OFFERINGS

The range of English offerings open to Clark students has been extended by the establishment of a cooperative arrangement with the English departments at Assumption College and the College of the Holy Cross. With the permission of the department, majors and graduate students may take a few carefully selected courses in literature at these institutions.

V. INTERNSHIP IN JOURNALISM

In cooperation with the University's Internship Office, the English Department administers a program of internships for juniors and seniors in journalism and related fields. In addition to internships in newspaper journalism, the program places students in the news departments of radio and television stations, periodical and book publishers, and the communications departments of large organizations. An intern may major in any discipline and select his/her own faculty adviser for the internship.

GRADUATE PROGRAM

The University offers a program leading to the master of arts degree in English. A limited number of scholarships providing tuition remission are available for superior students. The department also offers several teaching assistantships, involving half-time teaching and half-time study, with stipends ranging up to $3,200, plus the remission of tuition.

For the master of arts, the student must satisfactorily complete at least eight full courses of work, including Eng 300, Introduction to Graduate Study, and Eng 280, History of the English Language, and at least one additional seminar. During the second semester of her/his first year in residence, the student must satisfactorily complete Eng 349, Thesis Workshop. To obtain a degree, the student must also complete an acceptable master's thesis, Eng 350 (one full course); pass a written foreign language examination (in Greek, Latin, French, German, Italian, Russian, Spanish, or other foreign language approved by the department); and pass a final oral examination.

COURSES

10 INTRODUCTION TO LITERATURE

This course provides the student with an opportunity for intensive reading and writing about basic elements of poetry, fiction, and drama to include the use of diction, imagery, point of view, tone, and structure. Small sections and limited reading lists will help establish an atmosphere conducive to significant class discussion; emphasis will also be placed on writing effectively about literature. Strongly recommended for English majors. No student may take more than one section of English 10.

Semesters 1, 2 — Staff

13 ENGLISH POETRY

This course, required for the English major, focuses upon the development of the most important forms, themes, and movements of English poetry. It emphasizes intensive study and discussion of individual poems. A series of essays on assigned topics is required.

Semester 1 — Ms. Hilsinger
Semester 2 — Mr. Carter

14 LITERATURE OF FILM: RELATIONSHIPS BETWEEN LITERATURE AND FILM

This is a course in which relationships between popular literary works and significant films are explored in detail and in depth. Also included in the reading will be books of film and literary theory, aesthetics, history, etc. Offered at the discretion of the department. See also Screen Studies 241. Prerequisite: Screen Studies 101 or 103 or equivalent.

Semester 2 — Mr. Hodgkinson, Mr. Elliott

16 CREATIVE WRITING

A course designed to cultivate and guide student work, particularly in the short story, the lyric poem, and the informal essay. Class meetings deal largely with important aspects of the art of fiction; published literary works and student manuscripts are discussed. Not open to freshmen. Prerequisite: one semester of literature taught in any department. Like all of our writing courses, English 16 is graded only on a credit/no record basis.

Semester 1 Staff

17 CREATIVE WRITING

Open to students who have taken English 16 and to other students interested in writing verse. Prerequisite: same as English 16. Not open to freshmen. Like all of our other writing courses, English 17 is graded only on a credit/no record basis.

Semester 1 Mr. Sultan

18 EXPOSITORY WRITING

The purpose of English 18 is to improve expository writing skills by means of specific writing experiences. Students enrolled in this course will be expected to attend two classes per week and to confer with the instructor at least four times a semester, supplemented as needed by the Writing Center. Each of the seven themes (or the equivalent) and a short research paper must be revised as needed to bring them up to a reasonable standard of college writing. Like all of our other writing courses, English 18 is graded only on a credit/no record basis.

Semesters 1, 2 Staff

19 INTERMEDIATE COMPOSITION

This course is designed to help those who have already acquired competence in expository writing to improve their style and effectiveness through extensive practice. Special emphasis will be placed on the development of style through such methods as keeping a journal, reading aloud one's own work, and studying the work of established essayists. Close consideration will be given student papers by other students as well as by the instructor. Classes will be informal and will call for the exchange of ideas. Like all our other writing courses, English 19 is graded on a credit/no record basis.

Semester 1 Ms. Scanlon

20 ENGLISH AS A SECOND LANGUAGE

This course is designed primarily to improve speaking and writing skills through individual instruction. Some attention will be paid to reading and to aural comprehension. Methods and exercises will be suited to the needs of each student as determined in an individual evaluation by the instructor at the beginning of the semester. Like all our other writing courses, English 20 is graded on a credit/no record basis.

Semesters 1, 2 Ms. Dagnese

25 WRITING FOR MAGAZINES

The course will analyze the writing styles of different magazines (popular, trade, technical, etc.) and will help students develop appropriate styles for submission of stories and expository articles to these magazines. Offered at the discretion of the department. Prerequisite: permission of the instructor. Like all of our other writing courses, English 25 is graded only on a credit/no record basis.

Semester 2 Mr. Blinderman

77 INTERNSHIP

Offered for variable credit.
Semesters 1, 2 Staff

88 DIRECTED READINGS

Offered for variable credit.
Semesters 1, 2 Staff

90 SPECIAL PROJECTS

Offered for variable credit.
Semesters 1, 2 Staff

Note: When asking an instructor to sponsor Directed Readings 88 or a Special Project 90, the student (1) must be able to satisfy the instructor at the time of registration that he/she is competent to deal with the agreed upon materials primarily as works of literature and (2) must present a well thought-out proposal. The student must have taken the initiative in conceptualizing the principles on which she/he will select readings or carry out a special project, and he/she must have demonstrated competence in determining specific selections and procedures.

100 MAJOR BRITISH WRITERS

This course is designed to give the beginning student a sense of the historical development of English literature; consequently, each author will be studied both as a representative of his own time and as part of a continuing tradition. First semester: *Beowulf;* selections from Chaucer (in translation); *Sir Gawain and the Green Knight;* Spenser's *Faerie Queene,* Book III; selections from Shakespeare, Donne, and Milton. Second semester: Bronte's *Wuthering Heights* and Conrad's *Lord Jim,* Pope's *Rape of the Lock,* selections from Blake and Wordsworth, selections from Hardy.
Semester 1 Ms. Carr
Semester 2 Staff

101 MAJOR AMERICAN WRITERS

Through study of representative masterworks, the course traces the main currents of American literature from Puritan times to the present. Authors to be read during the first sememster include: Sewall, Edwards, Franklin, Cooper, Poe, Hawthorne, Thoreau, Emerson, and Melville; during the second sememster: Whitman, Twain, Howells, Dickinson, Adams, Crane, James, Frost, Eliot, Faulkner, and Hemingway.
Semester 1 Mr. Elliott
Semester 2 Mr. Beard

105 AMERICAN POETRY

A study of selected American poets in light of a common theme or poetic form, this course is designed to introduce students to the close reading of poetry and to the question of its relation to American culture. In 1980, the theme will be "The Poet in a Landscape: American Versions of Pastoral Poetry," and the poets to be studied will include Ralph Waldo Emerson, Emily Dickinson, Robert Frost, William Carlos Williams, Maxine Kumin, and Donald Hall.
Semester 2 Mr. Conron

110 INTRODUCTION TO HISTORY AND AMERICAN STUDIES

This is an introduction to the basic problems of interdisciplinary study and

historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. Previously listed as 130. See also History 110.
Semester 1 Mr. Ford, Mr. Formisano

116 MODERN FICTION BY WOMEN WRITERS
The selection of authors and works is based on three major concerns: that the literature read represent a chronological span, that it preserve a certain thematic coherence, and that it allow ample opportunity for discussion of aesthetic matters. The course is concerned with works written between 1892 and 1973 that provide portraits of women in all stages and conditions of life rendered in a broad spectrum of fictional techniques. Authors studied include Kate Chopin, Gertrude Stein, Djuna Barnes, Katherine Ann Porter, and Doris Lessing. Offered at the discretion of the department.
Semester 2 Ms. Hilsinger

125 THE SHORT STORY
This course involves the intensive reading of a wide range of stories that exemplify a variety of fictional methods, affording the student some knowledge of the history of this literary type. The primary aim is to help the student develop an appreciation of the broadly human values implicit in the short story. Offered at the discretion of the department.
Semester 1 Mr. Carter

129 MODERN DRAMA
This course is a survey of Western drama and theater from Ibsen to the present. The first semester traces the development of modern realistic drama and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major postwar movements and the radical dramatic forms they have produced. See also Theater Arts 154.
Semesters 1, 2 Mr. Schroeder

131 AMERICAN STUDIES: THE 1930s
This course is an introduction to the variety of perspectives and disciplines involved in American studies and their application to a particular theme or historical moment in American culture. (In this case, the subject will be the effects of the Depression on 1930s America.) Texts will include films, paintings, and photographs as well as works of social science and literature. Offered at the discretion of the department. See also History 131.
Not offered 1979–80 Mr. Conron, Mr. Campbell

139 LITERATURE AND SCIENCE
The course will trace the impact of scientific discovery upon literature and the literary accomplishments of scientists. It is thus a study both in the history of ideas and in literary style. Student research will be encouraged. Offered at the discretion of the department.
Semester 1 Mr. Blinderman

140 SCIENCE FICTION AND FANTASY LITERATURE: THE TRADITION
While contemporary works will be included, this course will focus on

contributors to the tradition: Plato, Bacon, More, Mary Shelley, Poe, Verne, Morris, Wells, and Bellamy. Limited to 25 students. Independent research and reports will be required. Offered at the discretion of the department.
Not offered 1979–80 Mr. Blinderman

143 MODERN BRITISH FICTION

This course deals primarily with the work of five twentieth century British writers of fiction: Joyce, Lawrence, Woolf, Forster, and Lessing.
Semester 2 Ms. Hilsinger

144 MODERN AMERICAN FICTION

A critical introduction to the best American fiction from about 1900 to 1960, with emphasis on its aesthetic values, sociological insights, and philosophical implications. Authors read will include Dreiser, James, Anderson, Fitzgerald, Hemingway, Capote, Faulkner, Ellison, and Mailer.
Not offered 1979–80 Mr. Beard

146 LITERATURE OF THE SIXTIES

This course will be a survey of contemporary British and American fiction and poetry. Writers to be considered may include Burgess, Hawkes, Golding, Barth, Mailer, Malamud, Bellow, Heller, Vonnegut, and representative modern British and American poets.
Semester 2 Mr. Elliott

154 ENGLISH FICTION

An exploration of narrative and fictive modes from their earliest appearances in English to the twentieth century. In the first semester, texts will include *Moll Flanders, Clarissa, Tom Jones, Tristram Shandy,* and others. Writers considered in the second term will include Thackeray, Dickens, James, Hardy, Conrad, and others. Close attention will be paid both to texts and to their cultural contexts.
Semesters 1, 2 Staff

155 ENGLISH DRAMA

This is a course in the major periods of the English drama and theater before the twentieth century. The first semester covers the medieval theater, and the drama of Tudor, Jacobean, and Caroline England. The second semester covers the period from 1660 to the twentieth century. No prerequisite. See also Theater Arts 155.
Semesters 1, 2 Mr. Schroeder

161 ADVANCED CREATIVE WRITING

This is a course for serious undergraduate literary artists. Admission by permission of instructor, who will require a sample of the student's work. Enrollment limited to 10. Like all of our other writing courses, English 161 is graded on a credit/no record basis. Offered at the discretion of the department. Half course.
Not offered 1979–80 Mr. Sultan

182 ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS

This is a study of Romanticism in philosophy, literature, music, and the visual arts. Romanticism is seen as a rebellion against traditional values in art and life placing the individual at the threshold of modernity. Expressions of the themes of alienation and personal transformation are studied in novels and novellas, poetry, philosophical literary works, program

music, painting, and film. Part of a Humanistic Studies cluster; also offered for credit as Philosophy 182, Comparative Literature 182, and Music 182.
Not offered 1979–80 Mr. Blinderman, Mr. Castonguay, Mr. Overvold, Mr. Schatzberg

203 SEMINAR: MEDIEVAL LITERATURE
A study of the literature of the Middle Ages, with special emphasis upon the literature of England. Readings will include *The Romance of the Rose*, Dante's *Inferno*, *Sir Gawain and the Green Knight*, the *Pearl*, selected lyrics and shorter poems from England, as well as selections from the *Canterbury Tales*. Offered in alternate years.
Semester 2 Ms. Carr

206 CHAUCER
An introduction to Middle English grammar, pronunciation, and scansion, and a study of *Troilus and Criseide* and the best of the *Canterbury Tales*, followed by a more rapid reading of at least one of Chaucer's earlier works, such as *The Book of the Duchess*, *The House of Fame*, *The Parliament of Fowls*, and *The Legend of Good Women*. Offered in alternate years.
Not offered 1979–80 Ms. Carr

212 SHAKESPEARE
Approximately 20 plays are read through the year as a basis for a study of Shakespeare's development as a dramatist. Semester 1 will cover Shakespeare's early plays, the histories and the mature comedies, ending with *Hamlet*. Semester 2 will emphasize the later tragedies as well as the romances.
Semesters 1, 2 Ms. Carr

216 THE RENAISSANCE IN ENGLAND
From Thomas More's book on nowhere-at-all (called *Utopia*) to Shakespeare's witches who argue, in *Macbeth*, that "Fair is foul and foul is fair," to the metaphysical poetry of John Donne, this course will examine equivocation as the mode of thought and response in the sixteenth century, a century torn by the Protestant discoveries of Copernicus, the economic rise of capitalism, the wars with Spain (and the Spanish Armada), and the quiet political revolution—from monarchy to government by Parliament. Offered at the discretion of the department.
Semester 1 Mr. Kinney

220 SEMINAR: SEVENTEENTH CENTURY
A study of selected Metaphysical, Cavalier, and early Neoclassical poets (including John Donne, George Herbert, Henry Vaughan, Richard Crashaw, Ben Jonson, Robert Herrick, Andrew Marvell, John Wilmot, Earl of Rochester, and John Dryden), and of major writers of seventeenth century prose (including Sir Francis Bacon, Thomas Hobbes, Izaak Walton, Robert Burton, Sir Thomas Browne, John Evelyn, Samuel Pepys, John Locke, and John Dryden). Offered in alternate years. Prerequisite: permission of instructor.
Semester 1 Mr. Carter

222 SEMINAR: MILTON AND THE RESTORATION DRAMA
This is an intensive reading of Milton's poems and selected Restoration plays by Wycherley, Etherege, Dryden, Congreve, and others. Offered in

alternate years. Prerequisite: permission of instructor.
Semester 2 Mr. Carter

226 SEMINAR: STUDIES IN EIGHTEENTH CENTURY LITERATURE

The first seven weeks of this course will focus primarily on the Augustans—the poetry of Pope; Swift's poems, essays, and *Gulliver's Travels;* and Gay's *Beggar's Opera.* As these authors tend to be intensely topical and satirical, substantial effort will be made to relate them and their writings to the literature, life, and thought of the times. The rest of the term will deal with the Age of Johnson. Although our primary emphasis will be on James Boswell and Samuel Johnson, we will also deal with a number of eighteenth century poets (to be selected from the following: James Thomson, William Collins, Thomas Gray, Christopher Smart, Oliver Goldsmith, Thomas Chatterton, William Cowper, and George Crabbe) and with at least two eighteenth century dramatists—Goldsmith and Sheridan. The course will be flexibly designed to permit students to investigate other contemporary figures in related arts or disciplines (e.g., Bernard Mandeville, David Hume, Edward Gibbon, Sir Joshua Reynolds, and Edward Burke). Offered in alternate years. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Carter

234 NARRATIVES FROM THE NEW WORLD, 1500–1800

A study of the perceptions of America and Americans as they emerge in selected narratives of exploration, settlement, and inland travel. Special attention will be paid to the physical and perceptual transformations of the New World as it evolved from wilderness to colony to nation. Narratives to be studied include Columbus's *Three Letters,* Bradford's *Of Plymouth Plantation,* Crevecoeur's *Letters of an American Farmer,* Jefferson's *Notes on the State of Virginia,* Bartram's *Travels,* and a narrative by Thoreau. Offered at the discretion of the department.
Not offered 1979–80 Mr. Conron

236 BRITISH ROMANTIC LITERATURE

To define romanticism, this course will focus on selected writings of English romantic poets and prose writers. Relevant works will be studied in depth, but attention will also be paid to biographical, sociological, and philosophical contexts. An effort will be made to correlate British romanticism with other romanticisms—of nineteenth century America and continental Europe, of earlier times and of the present. Offered in alternate years.
Not offered 1979–80 Mr. Blinderman

238 SEMINAR: WILLIAM BLAKE

This is an introduction to the poems and a selection of the prophetic books of Blake, including some consideration of Blake as a graphic artist. Offered at the discretion of the department. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Carter

239 SEMINAR: AMERICAN LITERARY RENAISSANCE

Characteristic writings by Emerson, Thoreau, Hawthorne, Poe, Melville, and Whitman are juxtaposed dialectically to explore the uniqueness of their individual and collective accomplishments and their larger implications in the context of American culture. Field trip to Concord and possibly elsewhere. Offered at the discretion of the department. Prerequisite: permission of instructor.
Semester 2 Mr. Beard

240 AMERICAN CULTURE AND SOCIETY, 1820–1860

This course is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention will be paid to the cultural geography, the arts (primarily literature and painting), and some significant political and social issues of the period. Some of the germinal works in American Studies (Leo Marx's *The Machine in the Garden* and R.W.B. Lewis's *The American Adam,* for example) will be read to provide contexts for the study of representative cultural and social expressions of the period. These expressions will include wilderness, pastoral, small town and urban landscapes; landscape and portraiture in painting; writings of Emerson, Hawthorne, and Melville; and Jacksonian thought and politics. Offered at the discretion of the department.

Semester 1 — Staff

241 AMERICAN THOUGHT AND CULTURE SINCE 1860

The course examines selected cultural patterns and themes in American thought from the Civil War onward. Readings and discussions draw on multiple disciplinary perspectives. Offered at the discretion of the department. See also History 241.

Semester 2 — Mr. Conron, Staff

242 VICTORIAN LITERATURE

This is a study of Victorian values and major intellectual movements as expressed in literature. The first semester concentrates on the idea of *duty* (transcendental, utilitarian, Catholic, Darwinian, and Dickensian); the second on the idea of *decadence* (from the Pre-Raphaelites to Beardsley). Offered in alternate years.

Semesters 1, 2 — Mr. Blinderman

244 SEMINAR: ROMANTIC AND VICTORIAN GOTHIC

This seminar will call forth the Gothic spirit from its incarnations in architecture, painting, and literature—graveyard poetry, Gothic novels, *Frankenstein.* Films and field trip. Offered at the discretion of the department.

Not offered 1979–80 — Mr. Blinderman

245 SEMINAR: DARWINISM

This seminar, of an interdisciplinary nature, is devoted to the study of original and research materials elucidating the scientific, philosophical, religious, and social dimensions of Darwinism. The course examines chiefly the survival of the fittest Darwinian ideas in English and American literature. Offered at the discretion of the department. Prerequisite: permission of instructor.

Semester 2 — Mr. Blinderman

249 SEMINAR: TWAIN, HOWELLS, AND JAMES

This course will explore the artistic assumptions and impulses underlying American realism through selected novels and criticism of America's three greatest realistic novelists. Offered at the discretion of the department. Prerequisite: permission of instructor.

Semester 1 — Mr. Elliott

252 SEMINAR: JOSEPH CONRAD

This is a study of Joseph Conrad's work. Offered at the discretion of the department. Prerequisite: permission of instructor. Half course.

Not offered 1979–80 — Mr. Sultan

254 SEMINAR: REALISM AND NATURALISM IN AMERICAN FICTION

This course will explore the artistic assumptions underlying American realism and its offspring, American naturalism. The focus will be on the techniques and themes used by such writers as Twain, Howells, James, Crane, Norris, London, and Dreiser. Offered at the discretion of the department. Prerequisite: permission of the instructor.

Not offered 1979–80 Mr. Elliott

257 SEMINAR: THE IRISH LITERARY MOVEMENT

This is a course in the inception, development, and effect of the literary movement during the end of the last century and the first decades of this one that created an Irish literature in English. Writers studied include Yeats, Joyce, Synge, and O'Casey. The cultural, historical, and political backgrounds of Anglo-Irish literature are also studied. Offered at the discretion of the department. Prerequisite: Permission of instructor.

Not offered 1979–80 Mr. Sultan

258 LAWRENCE AND JOYCE

This course is an intensive introduction to the art of the two writers. Poems, short stories, and novels by both will be studied. Offered at the discretion of the department. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Sultan

259 MODERNIST POETRY

This is a survey, with special attention to the genesis and development of modernism and to tendencies during the last few years toward a dominant new movement in English poetry. The works of almost 50 poets, ranging in time from Emily Dickinson to Robert Creeley, are considered. Offered in alternate years.

Semester 1 Mr. Sultan

261 SEMINAR: W. B. YEATS

This is an intensive study of the accomplishment of Yeats. The principal concern will be his poetry, but attention will be given to his thought, his dramatic and his other writings, and his cultural role in Ireland and the world during his time. Offered at the discretion of the department. Prerequisite: one of the following: Introduction to Poetry, The Irish Literary Movement, T. S. Eliot; also, permission of instructor.

Not offered 1979–80 Mr. Sultan

264 SEMINAR: T. S. ELIOT

This is an intensive study of the major poems, plays, and critical essays of T. S. Eliot. Offered at the discretion of the department. Prerequisite: permission of the instructor.

Not offered 1979–80 Ms. Hilsinger

266 SEMINAR: VIRGINIA WOOLF

This is an intensive study of Woolf's nine novels, her short stories, her major essays, and her diary. The course will emphasize the artistic process as well as the vision of Woolf's work, and it will consider such collateral issues as Woolf's critical stance and her feminism. Offered at the discretion of the department. Prerequisite: permission of instructor.

Semester 1 Ms. Hilsinger

267 SEMINAR: SPECIAL STUDIES IN TWENTIETH CENTURY AMERICAN LITERATURE

This is a seminar devoted to the intensive study of a twentieth century writer or small group of writers. Offered at the discretion of the department. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Beard

268 SEMINAR: EUGENE O'NEILL

This is an intensive study of about 20 of O'Neill's plays, from the early one-acters to *The Iceman Cometh, Long Day's Journey into Night,* and *A Moon for the Misbegotten,* with some attention to ideas, persons, and theatrical movements affecting O'Neill. Offered at the discretion of the department. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Beard

273 SEMINAR: F. SCOTT FITZGERALD AND THE TWENTIES

American literature experienced a rebirth in the 1920s. Using F. Scott Fitzgerald's writings as convenient points of reference, the seminar will examine, with particular attention to experiments in expression, works by such writers as Gertrude Stein, E.E. Cummings, T. S. Eliot, Sherwood Anderson, Ernest Hemingway, Sinclair Lewis, William Faulkner, Eugene O'Neill, William Carlos Williams, and Wallace Stevens. Interrelationships among the arts significant in the development of new forms and modes of expression will be stressed. Offered at the discretion of the department. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Beard

278 SPECIAL STUDIES IN TWENTIETH CENTURY LITERATURE

Tutorial with individual students who will develop their own projects in English literature or comparative literature (English and French, Spanish, German, or English and more than one of the others). Projects need not be critical papers. Translation, studies in the sociology of literature, the editing of private papers, and other projects may be undertaken. Offered at the discretion of the department. Prerequisite: permission of instructor. Half course.

Not offered 1979–80 Mr. Sultan

279 AMERICAN LANDSCAPES

This course will trace the evolution of American attitudes towards the natural landscape and of the literary forms which articulate these attitudes. Two literary problems will be considered in detail: how language functions to describe landscape, and how this language reflects the perceptions of those who describe it. Texts will include travelogues, nature writing, fiction, and poetry from the eighteenth century to the present. Some attention will be paid to landscape painting. Offered at the discretion of the department.

Semester 1 Mr. Conron

280 THE HISTORY OF THE ENGLISH LANGUAGE

This course traces the development of English from Proto-Indo-European to present day American English. It concentrates on the main phonological, morphological, syntactic, and lexical features of the Old English, Middle English, Early Modern English, and Modern English periods. M.A. candidates in English are required to take this course. Prerequisite: permission of instructor.

Semester 2 Mr. Macris

282 SEMINAR: OLD ENGLISH

This is an introduction to Old English language and literature. The works read include King Alfred's preface to Pope Gregory's *Pastoral Care* and selections from the West Saxon Gospels, from the Old English translation of the Heptateuch, from Aelfric's *Colloquy,* from the Anglo-Saxon Chronicle, and from the Old English translation of Bede's *Historia Ecclesiastica Gentis Anglorum.* Offered at the discretion of the department. Prerequisite: permission of the instructor.

Not offered 1979–80 Mr. Macris

284 SEMINAR: MODERN AMERICAN ENGLISH

This seminar analyzes the grammatical structure of Modern American English. It concentrates on an evaluation system for handling spoken and written English and the application of this system to problems of current English usage. The relevance of linguistic theory and methodology of the teaching of English receives special attention. Offered at the discretion of the department. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Macris

285 SEMANTICS

See Linguistics 285.

Semester 1 Mr. Macris

286 SEMINAR: LINGUISTIC APPROACHES TO LITERATURE

This is a study of what modern linguistics has to offer in the analysis and criticism of literature, with special attention to the contributions of the generative-transformational, tagmemic, and parametric approaches. Offered at the discretion of the department. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Macris

287 INTRODUCTION TO LINGUISTICS

See Linguistics 287.

Semester 1 Mr. Macris

288 COMPARATIVE AND HISTORICAL LINGUISTICS

See Linguistics 288.

Semester 2 Mr. Macris

289 AMERICAN SELVES: AUTOBIOGRAPHY

Since the emergence of the colonies, self-histories have been an indispensable mode of literary expression in America. The course will examine some of the cultural tendencies in America behind the impulse to self-history and some of the forms this impulse has taken. It will begin by considering representative models of autobiography from the eighteenth and early nineteenth centuries, including works by Jonathan Edwards, Benjamin Franklin, Frederick Douglass, and Walt Whitman. The major concentration, however, will be on such modern autobiographies as *The Education of Henry Adams, The Autobiography of Alice B. Toklas, Black Boy, These are Our Lives,* and Frederick Exley's *A Fan's Notes.* Offered at the discretion of the department.

Not offered 1979–80 Mr. Conron

291 THE PROTESTING VOICE AND THE INDIGNANT EYE: SATIRE IN LITERATURE AND THE VISUAL ARTS

This is a survey of the range and vitality of the genre of satire in literature

from Aristophanes to the present and in the visual arts from the fifteenth century to Picasso. Offered at the discretion of the department. Prerequisite: English 10, or one semester of study in literature taught in any department.
Not offered 1979–80 Mr. Carter

292 INTERNSHIP TEACHING

See Education 272.
Semester 2 Ms. Robinson

293 WORKSHOP IN SECONDARY ENGLISH CURRICULUM

A study of new approaches to English curriculum and preparation for practice teaching (visiting schools, observing classes, some apprentice teaching and tutoring, and work sessions with cooperating teachers). See also Education 293.
Semester 1 Ms. Robinson

294 MATERIALS AND METHODS IN TEACHING SECONDARY ENGLISH

This is a review and application of specific materials and techniques in the teaching of composition and poetry. This seminar involves student interns, specialists, and experienced teachers.
Semester 2 Ms. Robinson

295 TEACHING ENGLISH AS A SECOND LANGUAGE

This course covers the principles and practice of second language teaching, with emphasis on the application of modern linguistics to the teaching of English as a second language. Offered at the discretion of the department. Prerequisite: permission of instructor.
Semester 2 Mr. Macris

297 SEMINAR: VARIETIES OF LITERARY CRITICISM

Using a small number of model literary works, this course explores the theory and practice of alternative critical perspectives and schools of criticism. Candidates for honors in English are encouraged to elect either this seminar or English 298, no later than their junior year. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Sultan

298 SEMINAR: THE MYTHOPOETIC MODE

This seminar explores the vision and epistemology of mythopoetic literature. Works read and discussed include Shakespeare's *Henriad,* Milton's *Paradise Lost,* Bronte's *Wuthering Heights,* Melville's *Moby Dick,* and a work of the modern period. Candidates for honors in English are encouraged to elect either this seminar or English 297, in their junior year. Prerequisite: permission of instructor.
Semester 2 Ms. Hilsinger

299 HONORS IN ENGLISH: SENIOR YEAR

Offered as a full course.
Semesters 1, 2 Staff

300 INTRODUCTION TO GRADUATE STUDY IN ENGLISH

This course examines certain fundamental aspects of literary theory and considers the nature of and relationships among the three principal areas

in the discipline—bibliography and textual analysis, literary history, and literary criticism. M.A. candidates are required to take this course. Prerequisite: permission of instructor.
Semester 1 Mr. Sultan

349 THESIS WORKSHOP

This seminar involves the doing—though not necessarily the completion—of a scholarly-critical project in literature on a professional level. The entire process from initial formulation to final presentation will be considered in the context of the specific individual projects of students in the group. A prerequisite is active commitment to and involvement in such a project. While intended primarily for graduate students in English, undergraduates with appropriate projects—honors theses, for example—from English and allied disciplines may be accepted by permission.
Semester 2 Mr. Beard

350 MASTER'S THESIS

Prerequisite: permission of chairman or director of graduate studies.
Semesters 1, 2 Staff

351 READING COURSE FOR MASTER'S THESIS

Normally, only students writing theses in linguistics may take this course. Prerequisite: permission of chairman or director of graduate studies.
Semesters 1, 2 Staff

388 GRADUATE DIRECTED READINGS

This course may be elected to pursue in depth a topic other than that chosen for the master's thesis. Prerequisite: permission of instructor and chairman or director of graduate studies. Offered for variable credit.
Semesters 1, 2 Staff

COMPARATIVE LITERATURE

A student may count any of the courses listed under Comparative Literature toward the English major. In all cases, such electives must be approved by the student's adviser in the English Department as being meaningfully related to the student's overall program of English studies. The four core courses of the Comparative Literature Program—Comparative Literature 190, 230, 240, 251—are especially recommended.

LINGUISTICS

115 MAN AND LANGUAGE

See Linguistics 115.
Staff

THEATER ARTS

The following courses in Theater Arts may be taken for credit toward the English major.

10 INTRODUCTION TO DRAMA

See Theater Arts 10.
Semester 1 Mr. Schroeder

185 TENNESSEE WILLIAMS
See Theater Arts 185.

Mr. Schroeder

281 SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA
See Theater Arts 281.

Mr. Schroeder

286 SEMINAR: IBSEN
See Theater Arts 286.

Mr. Schroeder

Environmental Affairs

PARTICIPATING FACULTY

Harry E. Schwarz, B.C.E., Program Director, Professor of Environmental Affairs
Leonard Berry, Ph.D., Professor Geography; Director, Graduate School of Geography; Codirector, International Development and Social Change Program.*
Roger E. Kasperson, Ph.D., Professor of Government and Geography
Robert W. Kates, Ph.D., Professor of Geography and Research Professor
John Reynolds, Ph.D., M.P.H., Professor of Microbiology
Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology; Chairperson, Department of Psychology
Richard B. Ford, Ph.D., Associate Professor of Comparative History, Codirector, International Development and Social Change
Christoph Hohenemser, Ph.D., Associate Professor of Physics
Laurence A. Lewis, Ph.D., Associate Professor of Geography
Frank Puffer, Ph.D., Associate Professor of Economics
Dennis W. Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Adjunct in Geography
Kirsten Johnson, Ph.D., Assistant Professor of Geography
Alan A. Jones, Ph.D., Assistant Professor of Chemistry
Paul A. Erickson, M.A., Assistant Professor of Environmental Affairs (Affiliate)

*On leave 1979–80

PROGRAM

This program was developed in response to the challenge of the period of change being experienced in relations between people and their environment. New relations require new concepts and reevaluated views of existing ones. Thus, a new field of professional endeavor is evolving to deal with people and their environment. The purpose of this program is to train students for entry-level professional positions in the expanding fields of environmental planning, management, and education. The terminal point of the program is the attainment of the degree of master of arts in Environmental Affairs. The baccalaureate degree is incidental to the program, serving as the proof of attainment in a traditional discipline.

Within the program, concentrations are offered in environmental planning on the regional or urban level for land, water, and air, in environmental monitoring and environmental education. The program is flexible in order to accommodate changes in the field and to remain relevant in this dynamic world.

The Environmental Affairs Program offers a student substantive knowledge in an academic discipline, a group of undergraduate courses covering the concepts and tools necessary for working on environmental problems, an internship in an environmental agency, a one-year graduate program involving advanced courses in specialized areas, seminars, and a practicum in which the student develops a terminal project or thesis. Both academic and practical experiences make up the Environmental Affairs Program of study.

A central feature of the program is the relationship between student and adviser. By limiting the number of students admitted, close student-adviser relationships are maintained. In this way, the program can be tailored to the individual student's needs through the selection of undergraduate courses, which develop a student's disciplinary training while providing a strong foundation on environmental issues.

Where listed courses at Clark do not meet a student's full needs, Consortium courses, special projects, and directed readings provide the necessary additional training. A full summer internship is recommended immediately after completion of the baccalaureate degree and before the commencement of graduate work, but the program permits the internship at other periods, such as during the senior year or within the graduate-training span. In the two-year undergraduate part of the program, students are expected to take courses in a chosen discipline and environmental program-oriented courses to complete their baccalaureate requirements. Ten courses are required for graduate credit.

ADMISSION

Because the program is a three-year combined B.A./M.A. program, students normally are admitted at the end of their sophomore or the beginning of their junior year. A small number of graduate students are admitted to the program if their admission adds to the student body a range of backgrounds not available from within. However, those entering the program with a bachelor's degree normally require at least one and one half years of study to complete the necessary course work.

In order to maintain a close student-faculty relationship, admission to the program is limited to approximately 15 students per year. Selection of persons for admission is based upon an evaluation of the applicant's previous academic record and work experience, plus an interview with the admissions committee. In those cases where the interview requirement would impose an extreme hardship upon the applicant, a mutually satisfactory alternative may be possible.

Students applying for admission at the junior level are expected to have a cumulative average of about B— or higher and to have satisfactorily completed at least four courses in the sciences of which at least one each should be in biology and the physical and social sciences. Individual exceptions are possible if competence can be demonstrated in an alternative way. Seniors may be accepted on an individual basis with additional requirements based on the program objective and past experience of the student. Deficiencies may be made up by summer courses prior to entering the program or for one course only by concurrent registration in the junior year.

Since admission to the program is highly restricted, interested students are urged to apply as early as possible to the program director for a determination of their eligibility.

UNDERGRADUATE PROGRAM

The undergraduate portion of the Environmental Affairs Program emphasizes the acquisition of the tools and concepts students need as a base from which to develop their knowledge and skills in Environmental Affairs. Two options are available to students in their undergraduate years. One, the preferred, is to satisfy a departmental major and an environmental minor and so receive a bachelor of arts degree in a traditional discipline. The other is to receive a bachelor of arts with a concentration in Environmental Affairs and in a related field such as Biology; Chemistry; Geography; Government; Management, Psychology; Sociology; or Science, Technology and Society. The specific requirements for each of these options are:

Option 1

This leads to a bachelor of arts degree in any discipline with an environmental minor. The student must fulfill the requirements of a major in an established discipline and complete five course credits in environmental affairs, including the following:

	Credit
EA201, Applications of Systems Analysis to Environmental Problems	1/2
EA202, The Biosphere	1/2
EA203, Man's Perception of His Environment	1/2
EA204, Environmental Plans and Programs	1/2

Individual course substitutions may be made with the approval of the program director. During the senior year, students must take at least two courses accepted on the graduate level, if they plan to complete graduate work in one year.

Option 2

This leads to a bachelor of arts degree with concentration in Environmental Affairs. This program jointly designed by the student and his adviser must be approved by the dean of the college. This program must include EA 201, 202, 203, 204 (four 1/2 courses), EA 250 (one double strength course), two other EA courses, eight course credits in one field, such as Biology; Chemistry; Geography; Government; Management; Psychology; Sociology; or Science, Technology and Society that provide basic skills or are related to environmental problems, and two courses in fields other than the area of concentration related to the environment. Individual course substitutions may be made with the approval of the program director. During the senior year, students must take at least two courses acceptable on the graduate level if they plan to complete graduate work in one year.

GRADUATE PROGRAM

Admission: Students who have been enrolled in the program as undergraduates will continue in the graduate phase if they meet the standards of the Graduate School and pass a review of their progress by the Environmental Affairs Program Admissions Committee. A student entering the program with a bachelor's degree is accepted only if the Environmental Affairs Admissions Committee determines not only that the student is capable of doing the work, but also that the student's admission will further the goals of the program.

Internship: An internship of at least two months' duration in an agency or firm in which the intern works on an environmental problem or equivalent practical experience, is required. The internship normally will be accomplished during the summer following the baccalaureate. Students will be assigned to internships or can find a position by themselves if such a position is approved by the director of the program.

Coursework: A course program of ten courses is required, eight courses if the student took two courses acceptable at the graduate level in the senior year. This course program will be agreed upon jointly by the student and adviser and will be directed towards a specific focus, such as water or air pollution, planning, monitoring, or any other specific topic. One course credit for research or practical work on the thesis or terminal project and one for writing the thesis or project (EA 350) are a required part of the course program. Students entering the program at the graduate level may be required to take additional courses as needed to fill gaps in their undergraduate preparation.

Teaching and Research Prerequisite: Some teaching and research at Clark is prerequisite to the M.A. degree. Every effort is made to provide on and off-campus training activity at the teaching and research level.

Master's Project: This can be a terminal project, i.e., the solution to a specific problem or a thesis on a research topic. In either case, it must relate to the student's specific course focus, and its topic and outline must be approved by the director of the program.

Financial Aid: Several tuition remission scholarships are available for qualified applicants.

COURSES

013 FIELD STUDIES OF ENVIRONMENTAL ISSUES

Refer to course description under Geography 013.

Not offered 1979–80 Mr. Kates

101 INTRODUCTORY CASE STUDIES

Refer to course description under Science, Technology and Society 101.

Semester 1 Mr. Hohenemser, Mr. Schwarz

Semester 2 Mr. Ducsik, Mr. Johnson

109 MICROBIOLOGY

Refer to course description under Biology 109.

Semester 1 Mr. Reynolds

116 PRINCIPLES OF MODELLING

This course introduces students with little or no background or special competence in mathematics to the methodology of modelling dynamic systems, its applications to interdisciplinary environmental and societal problems. Several analytical tools will be presented including, among others, positive and negative feedback loops, simple differential and difference equations, and computer programming using BASIC and DYNAMO. Biases and assumptions in modelling and their effect on the interpretation of the results also will be explored. Also listed for credit as Mathematics 116 and Science, Technology and Society 116.

Semester 1 Mr. Gould, Mr. Puccia

201 APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS

This course will discuss the fundamental concepts of system analyses and their application to environmental problems. Stress will be on the use,

applicability, and limitations of this method in analyzing complex environmental systems and their physical, social, and economic aspects. Prerequisite: admission to Environmental Affairs Program or permisssion of instructor. Offered as a half course, first half of semester. Also listed for credit as International Development 201.
Semester 1 Mr. Schwarz

202 THE BIOSPHERE
Building on a foundation of general knowledge of physiology, genetics, taxonomy, and ecology, the course will provide a biological context and perspective for the analyses and assessment of man-made environmental hazards. Prerequisite: introductory course in biological science or concurrent registration in such course with permission of instructor. Offered as a half course, second half of semester. Also listed for credit as International Development 202.
Semester 1 Mr. Erickson

203 MAN'S PERCEPTION OF HIS ENVIRONMENT
This is an introduction to the study of environmental behavior, examining man's reactions to environmental changes and natural and man-made hazards. Offered as a half course, first half of semester. Also listed for credit as International Development 203.
Semester 2 Ms. Johnson

204 ENVIRONMENTAL PLANS AND PROGRAMS
This is an overview of the planning process with special emphasis on plans and programs in the New England region. Current plans and programs are examined and their logic and history discussed. Offered as a half course, second half of semester. Also listed for credit as International Development 204.
Semester 2 Mr. Schwarz

205 READINGS IN ENVIRONMENTAL AFFAIRS
The course consists of directed readings for undergraduates in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

206 RESEARCH IN ENVIRONMENTAL AFFAIRS
The course consists of special research projects for undergraduates in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

210 ENVIRONMENTAL PROTECTION
This is a free-wheeling discussion of pollution control in the real world, its legal, institutional, and political framework. Federal, state, and local laws and their scientific basis; agency practice and procedure; public litigation and private "citizen suits"; selecting theories and remedies, both civil and criminal; tactics and strategies; citizen "watchdog" groups; corporate and media responsibility; economy versus ecology; old tools, new tools, potential for change. The course includes reading in multilithed materials—statutes, regulations, court documents, case decisions, news accounts, and journal articles. There will be informal student advocacy panels to assure balanced presentation of issues.
Not offered 1979–80 Staff

216 ENVIRONMENTAL IMPACT ASSESSMENT

This course will deal with impact assessment under the National Environmental Policy Act of 1969 (NEPA). Focus will be on the analysis and evaluation of impacts on Federal programs and projects on interrelated physical and social components and dynamics of the human environment. Methodological as well as conceptual requisites for the interdisciplinary analysis and evaluation of impacts will be discussed. Special emphasis will be given to the management of the assessment team as a key factor in meeting the environmental goals of impact assessment under NEPA. Relevant case studies will be selected from a wide variety of domestic and international programs and projects.

Semester 1 Mr. Erickson

221 APPLIED SURFACE WATER HYDROLOGY

The course will focus on practical applications of hydrology for water resources management. Topics such as flood plain analyses, frequency analyses, and reservoir operation will be covered in detail following a quick review of the field. Prerequisite: Geography 014 or permission of instructor. Also listed for credit as Geography 221.

Not offered 1979–80 Mr. Schwarz

223 THE DYNAMICS OF SYSTEMS

An introduction to the methodology of system dynamics modelling as a means of analyzing large-scale societal problems, such as ultimate limits to growth, future availability of resources, and the effect of climate fluctuations on human populations. Lectures and assignments will be drawn from existing computer simulation models in these and other areas, such as theoretical ecology. Students will learn two programming languages, BASIC and DYNAMO, and will construct, operate, and evaluate their own models. No experience with computers or special competence in mathematics is required. Also listed for credit as Science, Technology and Society 223.

Not offered 1979–80 Mr. Gould, Mr. Schwarz

226 TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT

For advanced students, this is an introduction to the theory and methods of risk assessment and management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation. Also listed for credit as Geography 226 and Science, Technology and Society 226.

Semester 2 Mr. Kates

231 SEMINAR: POLITICS AND THE ENVIRONMENT

Refer to course description under Geography 231.

Semester 2 Mr. Kasperson

232 SELECTED TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH

Refer to course description under Biology 232.

Semester 2 Mr. Reynolds

238 ISSUES IN PUBLIC HEALTH

Refer to course description under Biology 238.

Semester 2 Mr. Reynolds

239 BIOLOGICAL AND HEALTH ASPECTS OF WATER POLLUTION CONTROL

Refer to course description under Biology 239.
Semester 2 Mr. Reynolds

245 ENVIRONMENTAL MANAGEMENT IN PHILOSOPHICAL PERSPECTIVE

This is a survey of issues that underly environmental management but are often omitted from purely technical discussions on the subject. Concepts to be examined include the "balance of nature" and the place of evolution in ecology, social Darwinism in practice, industrialization and the use of technology, and environmental degradation under alternative political systems. After a broad review, these concepts will be used as the frame of reference for an examination of environmental questions associated with power generation, such as the ecological effect of waste heat discharge. Also listed for credit as Science, Technology and Society 245.
Semester 2 Mr. Puccia

250 PRACTICAL PROBLEMS IN ENVIRONMENTAL AFFAIRS

This is a work-study course. The student will work four full (eight-hour) days in an environmental agency in the Worcester-Boston area or spend equivalent time on a project at the University. Also, weekly seminars at the University will review and evaluate work experiences. Grades will be awarded on the basis of the student's accomplishment in internship posts and seminars. This course does not substitute for required program internship. Prerequisite: permission of instructor. Offered as a double course.
Modular Term Staff

251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT

Refer to course description under Geography 251. Also listed for credit as International Development 251.
Semester 1 Mr. Kasperson

275 CITIZEN PARTICIPATION

Refer to course description under Science, Technology and Society 275. Also listed for credit as Geography 275 and Government 275.
Semester 2 Mr. Ducsik, Mr. Kasperson

287 AQUARIUS: PLANNING FOR URBAN WATER RESOURCES

Refer to course description under Geography 287. Also listed for credit as Science, Technology and Society 287.
Semester 1 Mr. Warrick

300 READINGS IN ENVIRONMENTAL AFFAIRS

The course consists of directed readings for graduate students in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

301 RESEARCH IN ENVIRONMENTAL AFFAIRS

This is a special research project for graduate students in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

330 PRACTICUM IN ENVIRONMENTAL AFFAIRS

Individuals or small groups of students will be working on real world problems. Emphasis in this studio course will be on practical problem solving.

Semesters 1, 2 Mr. Schwarz

347 SEMINAR IN SYSTEMS ANALYSIS

This course is designed to develop a closer familiarity with complex models. Students working as a group will develop or adapt a complex system and test the output on the computer. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Schwarz

350 THESIS IN ENVIRONMENTAL AFFAIRS

This course consists of preparation of master's thesis or master's terminal project.

Semesters 1, 2 Staff

357 REGIONAL WATER RESOURCES PLANNING

The process of regional resources planning is reviewed in the context of broad environmental concerns and is applied to an actual problem. Students working as a group select a region and prepare, for that area, a preliminary planning document that could be used as a guide for future detailed planning. Also offered for credit as Geography 357 and International Development 357.

Semester 2 Mr. Schwarz

COURSES DIRECTLY CREDITABLE IN ENVIRONMENTAL AFFAIRS

CHEMISTRY 142 ENVIRONMENTAL CHEMISTRY

Refer to course description under Chemistry.

Semester 1 Mr. Jones

GEOGRAPHY 157 RESOURCE MANAGEMENT

Refer to course description under Geography.

Semester 1 Ms. Johnson

Geography 191 INTRODUCTION TO MAPMAKING AND CARTOGRAPHY

Refer to course description under Geography.

Semester 2 Mr. Steward

Geography 208 SEMINAR IN ENVIRONMENTAL PERCEPTION, COGNITION AND BEHAVIOR

Refer to course description under Geography.

Semester 2 Ms. Johnson

GOVERNMENT 217 POLITICAL ANTHROPOLOGY OF DEVELOPMENT

Refer to course description under Government.

Semester 1 Mr. Davis

Foreign Languages and Literatures

DEPARTMENT FACULTY

Walter Schatzberg, Ph.D., Professor of German, Department Chair
Karl J. R. Arndt, Ph.D., Professor of German, Emeritus
Raymond E. Barbera, Ph.D., Professor of Romance Languages
J. Richard Reid, Ph.D., Professor of Romance Languages, Emeritus
Paul F. Burke Jr., Ph.D., Associate Professor of Classics*
Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish**
Kenneth Hughes, Ph.D., Associate Professor of German, Director, Comparative Literature Program*
Hartmut Kaiser, Ph.D., Associate Professor of German
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French, Acting Director, Comparative Literature Program
J. Fannin King, M.A., Associate Professor of Romance Languages
Michael K. Spingler, Ph.D., Associate Professor of French
Leo Ortiz-Minique, M.A., Visiting Instructor of Spanish
Elana Ashley, Ph.D., Lecturer in Hebrew Language and Literature
Jutta Bernstein, Ph.D., Lecturer in German
Katherine Kaiser, Ph.D., Lecturer in German
Gale H. Nigrosh, M.A.T., Lecturer in French
Catherine Q. Spingler, M.A., Lecturer in French

*On leave 1979–80
**On leave Semester 1, 1979–80

UNDERGRADUATE PROGRAM

The Major in Foreign Languages and Literatures

The major in foreign languages and literatures concentrates particularly on the way in which nations may express the consciousness of their culture through literature and other arts. The interdisciplinary and humanistic spirit of the program encourages the student to relate studies in literature to other areas of the humanities and social sciences such as history, philosophy, fine arts, geography, psychology, and sociology in order to arrive at an understanding of the cultural traditions of other nations.

Requirements

1) No fewer than eight courses beyond the intermediate level in one or more foreign languages.
2) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with a faculty adviser.
3) If the major program is concentrated in one language, a reading knowledge of a second language is recommended.
4) At least one course in linguistics is recommended.

The department does not require the student to follow a rigid sequence of courses, yet the nature of language study clearly indicates a basic progression, which the typical student might follow.

Essentially, departmental offerings for the foreign language major may be organized in the following groups:

1) Skill-oriented courses including conversation, composition, translation (11, 12, 100s)

2) Cross-cultural courses and courses focusing on literature and the fine arts including films and theater (100s)
3) Courses in literature which concentrate on particular themes, theories, problems, critical approaches (100s, 200s)
4) Courses in major figures, literary history, the styles of particular historical periods, and surveys of literature (100s, 200s)

These groupings are not mutually exclusive and, in the case of group two, some courses in film and theater could be considered to share some of the goals of a conversation or composition course but on a more advanced level. Similarly, it would not be possible to address oneself to the study of a style, say that of the Baroque, without pursuing questions of critical approaches and literary theory. However, the grouping is meant to assist the student by suggesting ways of organizing his/her progress within the major, beginning with the mastering of language skills and critical methods, and then proceeding to the application of those skills and methods to particular cultural and literary areas.

The Major in Comparative Literature

The major in Comparative Literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program that reflects the broadest possible frame in which to pursue the study of literature.

Requirements

1) No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
2) Suggested sequence of core courses in Comparative Literature:
    a) Ideally, the student should have taken Problems in Comparative Literature (CMLT 110) or a similar introductory comparative literature course by the end of the sophomore year.
    b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (CMLT 230), Studies in Narrative Form (CMLT 240), or English Poetry (English 13). In certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the adviser.
    c) While a student may wish to devote his/her senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar on Literary Theory and Practice (CMLT 251).
3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with a faculty adviser.

The Advisory System

Since the department believes that individual courses will assume relevance only in the context of a total program which will have sufficient flexibility to take the student's intellectual biography into account, it emphasizes strongly the close association between student and faculty advisers. The basic role of the adviser is to work closely with the student to ensure that the program developed will enhance and reflect the student's scholarly growth.

Although all members of the department serve as faculty advisers, the following have been designated as advisers in the major areas of concentration offered by the department:

Comparative Literature—Ms. Kaufmann-McCall
French—Mr. Spingler
German—Mr. Schatzberg
Spanish—Mr. D'Lugo

Students are encouraged to develop a foreign languages program involving two or more languages. To discuss this possibility as well as to plan career goals and options, contact Mr. Schatzberg.

Study Abroad

Students of foreign languages and literatures may study abroad for a summer, one semester, or an entire year. Clark sponsors programs in England, Germany, Luxembourg, Italy, and Mexico. In addition, through the University's affiliation with the Institute of European Studies, campuses in Vienna, Freiburg, Paris, Nantes, Madrid, Durham, and London are readily accessible to Clark students. For further information and to explore possibilities, contact Jan Smith, International Programs Office, or Mr. Schatzberg.

Language Dormitories

Foreign language residence quadrangles with native speakers in residence are available. Interested students should notify the department secretary.

UNDERGRADUATE-GRADUATE PROGRAM: THE B.A./M.A.

PROGRAM IN COMPARATIVE LITERATURE

The B.A./M.A. Program in Comparative Literature is a course of studies integrating the last two undergraduate years with the first year of graduate work. It permits and requires careful planning and coordination of course work, independent study, and research, and the preparation of a master's thesis over a three year period beginning with the junior year. The program, which is described in greater detail elsewhere in this catalog, is currently in its sixth year of operation. It involves as many as 10 faculty members and 20 to 25 students who have a demonstrated interest in literature and literary criticism. For further information concerning the program's admission standards, requirements, methodology, and goals, contact Ms. Kaufmann-McCall or Mr. Schatzberg.

DEPARTMENT COURSES

A. French
B. German
C. Hebrew
D. Russian
E. Spanish

A. FRENCH

French 11 ELEMENTARY

This course is for beginners with no background in the language. The course offers grounding in all four language skills (hearing, speaking, reading, writing) as preparation for subsequent courses conducted in the language. Individual work will be done in the language laboratory. Indivisible course.

Semesters 1, 2	Ms. Spingler
Semesters 1	Ms. Kaufmann-McCall
Semester 2	Mr. King

French 11 ELEMENTARY (ADVANCED SECTION)

The course offers a fresh start for students with some previous exposure to the language, but who are not yet prepared to enter the intermediate course. It is designed to impart an active knowledge of French, through grammar study and oral practice, in class and in the language laboratory with integrated short readings in French.

Semesters 1, 2 Ms. Nigrosh

French 12 INTERMEDIATE FRENCH

This is a review of French grammar with emphasis on writing and speaking. There will be reading and discussion of provocative works in journalism, fiction, theater, and poetry to acquaint students with significant personalities and ideas in French life. Also included are group projects on cross-cultural themes in class and individual work in the language laboratory. Prerequisite: French 11 or equivalent background, to be determined by instructor. Divisible course.

Semester 1	Ms. Nigrosh, Ms. Spingler
Semester 2	Ms. Kaufmann-McCall, Staff

French 106 SPECIAL TOPICS IN FRENCH

Offered for variable credit.

Semesters 1, 2, Modular Term Staff

French 127 SPEAKING FRENCH: INTERMEDIATE LEVEL

The goal of this course is to increase the oral fluency of the student by providing conversational situations of widely varied natures. Tapes in the language laboratory will be assigned to help increase oral comprehension and accuracy of pronunciation. Prerequisite: French 12.

Modular Term Mr. King

French 129 SKILLS AND TECHNIQUES IN READING FRENCH

This course provides a transition from speaking to reading with ease and understanding for the student who has the fundamentals of the French language. Starting with easy contemporary French (a novel of Georges Simenon), the class progresses through a brief experience with French poetry to the somewhat more difficult French of Jean-Paul Sartre in two of his plays *(Huis-clos* and *Les Mouches)*. A textbook helps increase vocabulary, understanding of French syntax and idiomatic structure, and other reading skills. Close attention is given in class to the precise meaning of words, phrases, verb tenses, etc. Prerequisite: French 12, or equivalent skill in the language to be determined by consultation with professors.

Semester 1 Mr. King

French 130 READINGS IN FRENCH LITERATURE

This course is logical in sequence to French 129, but not requiring French 129 as prerequisite. There is continued close attention to vocabulary,

idioms, sentence structure, and exact meaning of phrases and sentences. Increased attention is given to artistic effects and stylistic values. Readings: Simenon, *Collected Short Stories;* Anouilh, *Antigone;* and a selection of twentieth-century works. Prerequisite: French 129, 131, or equivalent.
Semester 2 Mr. King

French 131 READINGS IN FRENCH

This course is designed for students at the third-year level who wish to enhance their skills in reading, writing, understanding, and speaking French. Modern French texts will be chosen for their intrinsic interest and for their linguistic accessibility. There will be class discussions in French. Prerequisite: second semester of French 12, or permission of instructor.
Semester 1 Mr. Spingler

French 132 READINGS IN FRENCH LITERATURE: NARRATIVE PROSE

This course, basically a continuation of French 131, introduces the student to the study of the ways literature may reflect a nation's cultural and intellectual life. The course will emphasize the literary life in France between the two World Wars. The student will be given an introductory look at some of the movements that have characterized French culture in the twentieth century, such as surrealism and existentialism. The course's purpose is to provide the student with a basis for literary and cross-cultural studies to be pursued at an advanced level in subsequent courses. Readings will be selected from the works of Gide, Cocteau, Sartre, Camus, Anouilh, and others. There also will be some films chosen to complement the study of the literature. Conducted in French. Prerequisite: French 129 or higher level course, or consent of the instructor.
Semester 2 Mr. Spingler

French 137 ORAL FRENCH

The aim of this third-year course is to perfect skills in spoken communication. In this semester of a two-semester course, particular attention is given to the sounds of French and to its rhythm and melodic patterns. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the language laboratory. Prerequisite: Grade of B or higher in French 12, or equivalent skill in the language, to be determined by a placement test; permission of instructor.
Semester 1 Mr. King

French 138 ORAL AND WRITTEN FRENCH

The aim of this third-year level course is to perfect skills in oral and written communication. This course is intended as a sequel to French 137 but does not require French 137 as prerequisite. In this semester, increasing attention is given to grammatical patterns and written French as well as fluency in the spoken language. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the language laboratory. Prerequisite: Grade of B or higher in French 12, or equivalent skill in the language, to be determined by a placement test; permission of instructor.
Semester 2 Mr. King

French 160 THE FILMS OF JEAN RENOIR

The course includes analysis of the cinematic language and aesthetic of Jean Renoir, with particular attention to the way in which they reflect French traditions, mental structures, and social values. Readings will

include film scripts, film criticism, and source texts. Attendance at approximately 8–10 films will be required. Conducted in French. Prerequisite: French 130, or permission of instructor.
Not offered 1979–80 Mr. Spingler

French 165 FRENCH PLAY PRODUCTION
This is a course designed to provide direct experience of the theatrical synthesis within which the play and the actor operate. The course will concentrate on one playwright, studying him in terms of all the problems peculiar to the staging of his plays—sets, props, costumes, acting styles, gestures, and blocking. The practical aspects will be synthesized with academic research into the dramaturgy, themes, social context, and style of the author's period. Possible playwrights to be studied: Moliere, Marivaux, Ionesco, Beckett. Prerequisite: speaking knowledge of French and permission of instructor. Conducted in French.
Semester 1 Mr. Spingler

French 167 WOMEN IN THE MALE LITERARY IMAGINATION
Through the historical examination of a tradition central in shaping our notions of women and of love, we will try to come to some understanding of the roles of women in the male imagination, and how these roles have affected women's fantasies and realities. Reading will include *Tristan et Iseut, La Nouvelle Heloise, Les Liaisons Dangereuses, Madame Bovary, Une Vie, Nadja, L'Histoire d'O,* with reference throughout the course to relevant historical and theoretical texts. Conducted in French.
Not offered 1979–80 Ms. Kaufmann-McCall

French 171 WOMEN WRITERS
Through the fictional, autobiographical, and theoretical texts of twentieth-century women writers in France, we will explore the ways in which each writer's sense of herself and her culture is inscribed in her writing. Readings will include Colette, *La Vagabonde;* Simone de Beauvoir, *Le Deuxième Sexe* and *Une Mort Très Douce;* Marguerite Duras, *Hiroshima, Mon Amour;* Christiane Rochefort, *Le Repos du Guerrier;* Monique Wittig, *Les Guérillères.* Prerequisite: French 131 or above, or permission of instructor.
Semester 1 Ms. Kaufmann-McCall

French 175 SARTRE AND CAMUS
This is a study of major literary works by Sartre and Camus in the context of each writer's philosophical and political theories. Conducted in French.
Not offered 1979–80 Ms. Kaufmann-McCall

French 180 THE FRENCH SPEAKING WORLD
An interdisciplinary analysis of the complexities and contradictions of the French presence in various parts of the world, with special emphasis on Canada, the Antilles, Africa, and contemporary France. Students will be expected to give an oral report, to be developed into a written research project on the subject of the course as it relates to their particular discipline or area of interest. Readings will include Marcel Rioux, *Les Québecois;* Marie-Claire Blais, *Une Saison dans la Vie d'Emmanuel;* Aimé Césaire, *Discours sur le Colonialisme;* Frantz Fanon, *Peau Noire, Masques Blancs;* Jean Genet, *Les Nègres;* Simone de Beauvoir, *Les Belles Images;* and material on the events in France of May 1968. Conducted in French. Prerequisite: French 131 or above, or permission of instructor.
Semester 2 Ms. Kaufmann-McCall

French 206 SPECIAL TOPICS IN FRENCH
Offered for variable credit.
Semesters 1, 2, Modular Term Staff

French 208 TEACHING LAB IN FRENCH
A teaching apprenticeship experience is offered to graduate students and to exceptional undergraduates who have demonstrated potential capability in this area. The teaching apprentice, under the supervision of the regular course instructor, is gradually exposed to all the aspects involved in teaching a foreign language course (planning and organization, preparation, presentation, evaluation) and is encouraged to become a coteacher to the greatest extent possible.
Semesters 1, 2 Staff

French 241 GENERAL VIEW OF FRENCH LITERATURE, CHARLEMAGNE TO LOUIS XIV
The course covers the period from the Middle Ages through the Age of Louis XIV. It involves an interpretation of the main currents of French literature from the *Chanson de Roland* through the period of the great classicists of the seventeenth century. Each period is studied concentrating on a limited number of authors or schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French.
Not offered 1979–80 Mr. King

French 242 GENERAL VIEW OF FRENCH LITERATURE, VOLTAIRE TO PROUST
The course studies the period from the beginning of the Age of Enlightenment to the early twentieth century. It involves an interpretation of the main currents of French literature between the Age of Louis XIV and the First World War. Each period is studied concentrating on a limited number of authors or schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Prerequisite: Grade of B—or higher in a third-year course.
Not offered 1979–80 Mr. King

French 251 MASTERPIECES OF EARLY FRENCH LITERATURE
An in-depth study of outstanding French literary masterpieces written before 1600. Particular attention will be given—in the medieval period—to the *Chanson de Roland* and the *Roman de Tristan et Iseut;* in the Renaissance—Rabelais's *Gargantua et Pantagruel* and other narrative writers including Marguerite de Navarre, Bonaventure des Périers, and Noël du Fail.
Semester 1 Mr. King

French 255 THE MODERN FRENCH THEATER
This is a study of the origins and development of *le théâtre nouveau* with emphasis on dramaturgy and *mise en scene*. The focus of the course is upon the theater since 1950 especially Ionesco, Beckett, Genêt, and Arrabal, but the course also explores the affinities between these playwrights and the Dada and Surrealist movements and studies three precursors: Jarry, Ghelderode, and Artaud. Conducted in French.
Semester 2 Mr. Spingler

French 258 EXPERIMENTS IN SELF-CONSCIOUS NARRATIVE: NOVEL AND AUTOBIOGRAPHY

This is a study of contemporary French prose from the point of view of the author's self-affirmation through narrative. The problem of a possibly blurred division between fact and fiction, history and myth, will be explored through a study of novels and autobiographies of Gide, Sartre, Genêt, Beckett, Michel Leiris, and Henri Michaux. Conducted in French.

Not offered 1979–80 Mr. Spingler

French 261 SENIOR TUTORIAL FOR MAJORS

A program of extensive readings and tutorial meetings is designed to provide students with a broad view of the whole of French literature. The readings will be planned individually for each student in order to complement previous course work.

Semesters 1, 2 Staff

French 270 THE EXPERIENCE OF POETRY

Given in French, this course will attempt, through lecture-discussions, readings and *explications de texte*, to clarify the poetic experience. (What is poetry? How is the poetic experience produced? How is it communicated?) After a preliminary study of French prosody (structure, meter, rhyme, technical effects, and so forth), French poetry of all periods (eleventh to twentieth centuries) and all genres (lyric, dramatic, epic, didactic, etc.) will serve as the material on which to base the study of the basic problem of the course as stated above. Prerequisite: permission of instructor. Conducted in French.

Not offered 1979–80 Mr. King

B. GERMAN

German 11 INTRODUCTORY GERMAN

This course is designed to impart an active command of the German language. It combines the study of grammar with oral practice and readings in literary and expository prose. Indivisible course.

Semester 1, 2 Mr. Kaiser
Semester 1, 2 Mr. Schatzberg

German 12 INTERMEDIATE GERMAN

This is a review of German grammar. There will be reading and discussion of selections adapted from German-language newspapers and magazines. Significant works in prose, poetry, and drama will be studied to acquaint students with outstanding writers and ideas in German literature and culture. Individual work in the language laboratory and weekly written assignments. Prerequisite: German 11, or equivalent background in the language.

Semester 1 Ms. Kaiser, Mr. Kaiser
Semester 2 Ms. Bernstein

German 106 SPECIAL TOPICS IN GERMAN

Offered for variable credit.

Semesters 1, 2 Staff

German 127 DRAMATIC EXPRESSION IN GERMAN

This course provides the more advanced student of the language with the

opportunity to refine and practice the habits of gesticulation, intonation, and rhythm of contemporary spoken German. Under close supervision, the class studies and learns one or more contemporary plays with a view to eventual production or dramatic reading of the piece(s). Emphasis is placed on pronunciation, gesture, and the development of those intonational refinements appropriate to the interpersonal situations of the texts studied. Although discussion of the dramatic works as literature clearly is necessary, it should be noted that the course is essentially an advanced language course. Active participation of all students is required. Examination consists of the presentation of a dramatic passage, which the student has prepared outside of class. Prerequisite: German 12 or equivalent.
Not offered 1979–80 Mr. Hughes

German 128 SPOKEN AND WRITTEN GERMAN
This third-year course aims at strengthening good speech habits with regard to German grammar and syntax, at expanding the active vocabulary, and at improving students' ability to express themselves in writing. Literary and journalistic texts will serve as a basis for discussion of important issues in contemporary German. Weekly written assignments. Recommended for majors and as preparation for German 132. Prerequisite: German 12, or equivalent.
Semester 1 Mr. Kaiser

German 130 MODERN GERMAN PROSE
This course is designed to familiarize the student with prose—from West and East Germany—by Kafka, Hesse, Mann, Böll, Grass, Plenzdorf, and Wolf; includes discussions, oral and short written reports in German.
Semester 1 Ms. Bernstein

German 132 ADVANCED COMPOSITION AND CONVERSATION
This course is designed to develop accuracy and fluency of oral and written expression. It includes review of selected problems of grammar and exercises in idiomatic use of the language; reading and analysis of fictional as well as nonfictional texts documenting political, social, and cultural developments in Germany during the past 50 years; oral reports; weekly compositions. Required of majors. Prerequisite: German 12, or equivalent; permission of instructor.
Not offered 1979–80 Mr. Kaiser

German 134 WORKSHOP IN TRANSLATION
The object of this course is to give students a practical, concrete experience of what it means to "translate" from one language into another. The student will see that the process is not nearly so simple as it may have seemed, but that there is a scale of texts which range from the relatively easy to those that virtually defy rendering into another tongue. In the more difficult cases, it will be demonstrated that there is no such thing as a mere rendering of a text into another language, but that the process in, say, poetry, requires transposition of a whole cultural reflex into another. Various kinds of texts will be examined, from the sober style of the scientific article to the emotionally charged language of lyric poetry.
Not offered 1979–80 Mr. Hughes

German 138 MODERN GERMAN DRAMA
This course is designed to familiarize the student with plays by Brecht,

Frisch, Dürrenmatt, Weiss, Hochhuth, Walser, Dorst, and Handke; includes discussions, oral and short written reports in German.
Semester 2 Ms. Bernstein

German 142 GERMAN ROMANTICISM
This is an analysis of German romanticism from its beginning in the 1790s to its decline in the 1830s, aesthetic credos, lyric poetry, the drama, major prose works (among them, the fairy tale as an art form) will be discussed in their relation to the intellectual history of the period. Authors include the Schlegel brothers, Hölderlin, Novalis, Tieck, Wackenroder, Kleist, Brentano, E. T. A. Hoffman, Eichendorff, and Heine. Prerequisite: German 12 or equivalent.
Not offered1979–80 Mr. Kaiser

German 145 THE GERMAN NOVELLE
The course is a historical and critical study of this uniquely German genre. Particular attention will be paid to narrative technique and to the typical features of the novelle distinguishing it from the short story on the one hand and from the novel on the other. Selections range from early romanticism to Thomas Mann. Where applicable, a number of poems by the author under consideration will be discussed. Prerequisite: German 12 or equivalent.
Semester 2 Mr. Kaiser

German 166 GERMAN DRAMA FROM LESSING TO EXPRESSIONISM
The course includes reading and discussion of representative plays by the chief German dramatists from the end of the eighteenth to the early twentieth century. The course will focus on the sociopolitical aspects of these works, the aims and concepts of the dramatic art, and the changing traditions of playwriting. Authors include Lessing, Goethe, Schiller, Kleist, Grillparzer, Büchner, Hebbel, Hauptmann, Schnitzler, and Kaiser. Prerequisite: German 12 or equivalent.
Not offered 1979–80 Mr. Kaiser

German 170 THOMAS MANN
This is a concentrated study of the short stories and of the novel *Felix Krull*. Mann's development is traced from his early aestheticism and cultural pessimism to his later avowal of democratic socialism and historical optimism. Discussions of Nietzsche, Schopenhauer, Wagner, and Freud will illuminate Mann's changing perspective and artistic values and will take into account some reading in the historical background of the time. Conducted in German.
Not offered 1979–80 Mr. Hughes

German 190 GOETHE
This is a study of Goethe's work as poet and thinker through selected readings of his poetry, plays, prose, and critical essays on art and science. Prerequisite: permission of instructor. Conducted in German.
Not offered 1979–80 Mr. Schatzberg

German 192 SCHILLER AND KLEIST
This is a study of major literary works of Schiller (drama, poetry) and Kleist (drama, narrative prose). The works will be considered in terms of the historical epoch in which they were written. Discussion will focus on

structural, moral, sociopolitical, and existential aspects. Conducted in German. Prerequisite: German 12, or equivalent.
Not offered 1979–80 Mr. Kaiser

German 206 SPECIAL TOPICS IN GERMAN
Offered for variable credit.
Semesters 1, 2 Staff

GERMAN COURSES CONDUCTED IN ENGLISH

German 116 COLLOQUIUM ON MODERN GERMAN LITERATURE
The purpose of this course is to examine some of the dominant themes in modern German literature and to acquire skill in interpreting literary works. Enrollment is limited to assure every student the opportunity for active participation. Conducted in English.
Not offered 1979–80 Mr. Schatzberg

German 130 THE MODERN GERMAN NOVEL
The course reviews selected works of Günter Grass, Hermann Broch, Thomas Mann, Heinrich Böll, Max Frisch, and other writers from the German language areas of East and West Germany, Austria, and Switzerland. Emphasis is not so much on the development of the twentieth-century novel as it is on understanding each of the works in its historical, social, and conventional context. This course, which is conducted in English, is also available for credit in German. Those choosing this option will read several of the works in German and meet in extra sessions where the work will be discussed in German.
Not offered 1979–80 Mr. Hughes

German 152 THE MEDIEVAL GERMAN EPIC
Around the year 1200, a number of epic masterpieces were produced in Germany, which have taken their place in world literature. The following works, which represent the finest examples of the heroic and courtly epic tradition in German literature, will be studied: *The Nibelungenlied,* Hartmann von Aue's *Gregorius,* Wolfram von Eschenbach's *Parzival,* and Gottfried von Strassburg's *Tristan.* The structure of medieval society, religious ideals, the chivalric code as well as Germanic mythology, the legends of the Celtic King Arthur, and historical events, especially the Crusades, will be dealt with to the extent they are reflected in these works. Conducted in English.
Not offered 1979–80 Mr. Kaiser

German 168 MUSIC IN GERMAN LITERATURE AND THOUGHT
Countless musicians, philosophers, and writers have speculated on the nature of music, its mysterious power to influence people and communicate strong feelings. This course will be devoted to reading and discussion of works by the following authors from the German-speaking countries of the nineteenth and twentieth centuries: Wackenroder, Novalis, Kleist, Schopenhauer, E. T. A. Hoffmann, Goethe, Grillparzer, Heine, Mörike, Wagner, Nietzsche, Hesse, and Thomas Mann. The approach will be predominantly thematic; however, several works will be studied which reveal the author's successful attempts to employ musical devices and structures in his literary creations. Conducted in English.
Not offered 1979–80 Mr. Kaiser

German 175 MASTERPIECES OF GERMAN LITERATURE FROM THE EIGHTEENTH CENTURY TO THE PRESENT

The course is designed to highlight the development of German literature during the last 200 years. All works to be studied, in English translation, represent outstanding artistic achievements embodying both characteristically German and universal problems and issues. They reflect widely differing moral values, aesthetic convictions, and sociopolitical concerns and will be analyzed on their own merits. As expressions of the *Zeitgeist* they also are intended to introduce the student to the cultural diversity and antithetical trends so typical of Germany's recent history. Writers to be read include Lessing, Goethe, Schiller, Kleist, E. T. A. Hoffmann, Büchner, Keller, Fontane, Musil, Th. Mann, Kafka, Brecht, Grass, and Böll. Conducted in English.

Semester 2 Mr. Kaiser

German 183 KAFKA SEMINAR

The course involves a careful study of Kafka's novels, short stories, parables, and aphorisms. Prerequisite: some familiarity with the major short stories and novels of Kafka. Conducted in English.

Not offered 1979–80 Mr. Schatzberg

German 196 GERMAN EXPRESSIONISM IN LITERATURE, FILM, AND THE ARTS

A study of the modernist movement in Germany in drama, prose, film, music, architecture, and painting, focusing primarily on works composed during that most critical period in Germany beginning just before World War I to the rise of National Socialism, 1910–1933. Conducted in English. Selected topics to be studied within the context of the cultural history of the period will include:

Drama:	Wedekind, Kaiser, Toller, Brecht
Film:	*The Cabinet of Dr. Caligari, Nosferatu, M*
Music:	The Operas of Alban Berg: *Lulu, Wozzeck*
Architecture:	The Bauhaus School
Painting:	Kandinsky and The Blue Rider School

Semester 1 Mr. Schatzberg

C. HEBREW

Hebrew 11 ELEMENTARY HEBREW

Modern, conversational Hebrew. Emphasis on speaking, reading, writing, and listening skills. Acquisition of vocabulary and basic grammar through conversation, drills, reading of simple texts, and listening to tapes. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Indivisible course.

Semesters 1, 2 Ms. Ashley

Hebrew 12 INTERMEDIATE HEBREW

Modern, conversational Hebrew. Enrichment and reinforcement of verbal and written expression and grammatical structures. Use of graded readings, accompanied by tapes, selected newspaper articles, and simple short stories. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Prerequisite: Hebrew 11 or equivalent.

Semesters 1, 2 Ms. Ashley

Hebrew 14 ADVANCED INTERMEDIATE HEBREW
Modern, conversational Hebrew. Enrichment and reinforcement of verbal and written expression and grammatical structures. Use of graded readings, accompanied by tapes, selected newspaper articles, and short stories. Two class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Prerequisite: Hebrew 11 with the permission of instructor.
Semesters 1, 2 Ms. Ashley

Hebrew 130 ADVANCED HEBREW
Readings of contemporary Hebrew prose, poetry, and drama. Emphasis is on spoken language, literary analysis, and composition. Prerequisite: Intermediate Hebrew or equivalent.
Semesters 1, 2 Ms. Ashley

HEBREW LITERATURE COURSES CONDUCTED IN ENGLISH

Hebrew 119 THE PENTATEUCH
A survey of the five books of Moses focusing upon the development of basic Jewish religious themes. No Hebrew language background required. Conducted in English.
Semester 2 Mr. Davids

Hebrew 120 THE PROPHETS OF ISRAEL
This course will be directed toward a study of the prophets as men of thought. Emphasis will be placed upon the development of prophetic literature, the psychology of prophecy, the prophet as religiopolitical activist, and the prophet as spokesman for ethical idealism. Study will focus upon Elijah (ecstatic prophecy), First Isaiah (prophetic hope), Jeremiah (religious reformation), Ezekiel (Diaspora Judaism), Amos (the prophet as social critic), Hosea (divine love), and Micah (reflections on the future). Conducted in English.
Not offered 1979–80 Mr. Davids

Hebrew 121 WISDOM LITERATURE
The wisdom literature within the Hebrew *Scriptures* represents creative interaction between the Hellenistic and Jewish worlds. This course will focus upon the *Book of Job, Ecclesiastes, Proverbs,* and *Song of Songs.* We will explore practical as well as philosophical wisdom, with a special focus on the great issues of life raised by the authors. No prerequisites in the area of language or Bible study. Conducted in English.
Not offered 1979–80 Mr. Davids

D. RUSSIAN

Clark students may take additional courses in Russian language and literature at the College of the Holy Cross through the Worcester Consortium for Higher Education.

Russian 11 INTRODUCTORY RUSSIAN
This course is an introduction to the written and spoken language. It consists of four class periods and three laboratory sessions a week. Indivisible course.
Not offered 1979–80 Mr. Hughes

Russian 106 DIRECTED READINGS
Students interested in specific authors and/or topics in Russian literature and civilization may receive instruction and guidance in either English or Russian. Offered for variable credit.
Not offered 1979–80 Mr. Hughes

E. SPANISH

Spanish 11.01 ELEMENTARY
This course is for beginners with no previous background in the language. Students receive grounding in all four language skills (hearing, speaking, reading, writing) as preparation for subsequent courses conducted in the language. There will be three hours of class contact per week plus individual work in the language laboratory. Indivisible course.
Semesters 1, 2 Staff

Spanish 11.02 ADVANCED
This course offers a fresh start for students with some previous exposure to the language, but who are not yet prepared to enter the intermediate course. It will be designed to impart an active knowledge of Spanish through grammar study and oral practice, in class and in the language laboratory with integrated short readings in Spanish. Indivisible course.
Semesters 1, 2 Mr. Ortiz

Spanish 12 INTERMEDIATE
This course offers consolidation of basic skills in the language for students who previously have completed Spanish 11 or its equivalent. First semester stresses development of oral facility in Spanish through a variety of exercises including taped interviews with native-speakers, improvisational acting in brief scenes from plays, and discussions based upon readings related to topics of Hispanic culture and society. Grammar review will be based upon the specific needs of the group. Prerequisite: Spanish 11 or equivalent skill in the language. Spring semester will include more extensive readings on themes of Hispanic culture as the basis for class discussion and essay assignments. The focus of the spring semester will be those activities in speaking, reading, and writing that provide the student with sufficient mastery of basic skills in Spanish to allow for reasonable adjustment to advanced course work in Hispanic studies.
Semester 1 Mr. Barbera
Semester 2 Staff

Spanish 106 SPECIAL TOPICS IN SPANISH
Variable credit; topics at the discretion of instructor.
Semesters 1, 2 Staff

Spanish 127 PRACTICE IN ORAL AND WRITTEN SPANISH
This is an advanced intermediate course to help students develop fluency and accuracy in the spoken and written language. Classes will stress composition and pronunciation as well as conversation practice. The course is intended primarily for freshmen who have completed two to three years of high school Spanish.
Semesters 1, 2 Staff

Spanish 131 READINGS IN MODERN SPANISH-AMERICAN LITERATURE

Third-year level. Close examination of the principal writers and movements in the development of twentieth century Spanish-American prose. Special emphasis on the "new narrative" of Borges, Cortázar, García Márquez, Donoso, and Rulfo. Conducted in Spanish. Prerequisite: Spanish 12 or equivalent skill in the language.

Semester 1 Mr. Barbera

Spanish 132 INTRODUCTION TO SPANISH LITERATURE OF THE TWENTIETH CENTURY

The course offers reading and discussion of selected works from the Generation of 1898 to the contemporary period (Unamuno, Pío Baroja, García Lorca, Cela, Buero Vallejo, Sastre, Goytisolo). Emphasis is on conflictual structures within dramatic and narrative works, including selected recent Spanish films: individual vs. the group as seen particularly in the depiction of the Spanish Civil War in contemporary literature; the artist's conception of cultural continuity; the themes of modernity and change as reflected in the works of more recent writers. Conducted in Spanish.

Semester 2 Staff

Spanish 133 HISPANIC THEMES

This is a third-year course of readings and discussions intended to introduce the student to the diversity of Hispanic culture through a close consideration and analysis of a limited number of problems as reflected in selected readings from literature, history, and cultural anthropology as well as current periodicals in Spanish. The course will focus on one or two of the following national cultures: Chile, Cuba, Mexico, Spain, Argentina. Topics normally covered include: parallel development of Anglo-American and Hispanic cultural institutions, changing identity of the family and the individual in twentieth century society, the emerging identities of women in these societies and a comparison with the traditional Hispanic definition of women's role. Readings and discussions will be in Spanish.

Semester 1 Mr. Ortiz

Spanish 135 HISPANIC ETHOS AND CINEMA: THE FILMS OF LUIS BUÑUEL

Classes will consist of viewing, discussion, and analysis of the major films of Luis Buñuel in the context of the cinematic medium as well as in the broader tradition of a particular critique of Hispanic social values. The recurrent motifs of Catholicism and the church, charity, violence and sexual repression will be examined as cinematic form and substance. Particular attention will be paid to the function of the spectator as defined and manipulated by each of the Buñuel films. Readings include film scripts, film criticism, and source novels. Conducted in Spanish. Prerequisite: Spanish 131 or permission of instructor. Attendance at 10 film showings during the semester (approximately one weekly) will be required of students taking the course for credit.

Not offered 1979–80 Mr. D'Lugo

Spanish 136 WOMEN'S ROLE IN SPANISH LITERATURE

Selected works will be studied with a focus on the role of women in the

literature of Spain throughout the centuries. Prerequisite: Spanish 12 or equivalent skill in the language.
Semester 2 Mr. Barbera

Spanish 137 ADVANCED ORAL AND WRITTEN SPANISH
A third-year level course, this is a rapid review of grammar and stylistic, with exercises in composition, pronunciation, and intonation. It is intended to allow the student with one or more years of advanced college work in Spanish (or equivalent) the opportunity for refinement and mastery of both written and spoken Spanish. Emphasis will be placed upon control and accuracy of expression in writing through regular compositions and translation exercises as well as work in phonetics and diction. Prerequisite: Spanish 131 and one course above that level.
Semester 2 Staff

Spanish 140 SPANISH DRAMATIC EXPRESSION/PLAY PRODUCTION
This course is intended to provide the student who has completed Spanish 12 or equivalent with an opportunity to develop and refine habits of gesticulation, rhythm, and intonation of contemporary spoken Spanish. The course will include close work on two contemporary dramatic works, which will give the student practical experience in the skills of interpersonal encounters in which control of oral expression is required. Although some consideration will be given to the texts as dramatic works, the course is principally a workshop in advanced oral Spanish. Prerequisites: Spanish 12 or equivalent skill in the language.
Semester 1 Mr. Ortiz

Spanish 141 SPANISH TRANSLATION WORKSHOP
As the title indicates, this is a *workshop* and not a descriptive course in the techniques of translation. The purpose of the course is to enable students to translate printed data (commercial, technical, scientific, print, comic strips, etc.) from Spanish into English and *vice-versa*. The course will be based on a linguistic approach and will consist of formal sessions in which this basic theory and its diverse techniques will be taught—plus the workshops. During the workshops, printed materials will be distributed to the students for them to translate. The workshop sessions will be the testing ground for the theory exposed during the "magisterial" lessons. Other exercises will cover these aspects: Morphemes, lexicon and cognates, syntagmatic sequences, clauses and sentences. Paragraph and "textual" translation will be dealt with separately. Prerequisites: language majors—four college semesters of Spanish or equivalent; linguistics majors—a course in at least one of the following: general linguistics, theoretical linguistics, transformational grammar, semantics. Spanish 131 or permission of instructor.
Not offered 1979–80

Spanish 143 SPANISH ESSAY AND THOUGHT
The course consists of readings and discussions of selected essays from influential writers of Spain and Spanish America as these express the cultural, social, political, and ethnic values and concerns of the Spanish-speaking people. Readings will reflect both the traditional notions of Hispanic society as well as contemporary views as posed in recent magazines, periodicals, and newspapers. Prerequisite: Spanish 131 or permission of instructor.
Semester 2 Staff

Spanish 145 SPANISH AMERICAN SHORT STORY

An introduction to the tradition and development of shorter narratives in Spanish America. Class discussion and readings will emphasize the richness of artistic innovation from the earliest "primitive" narrations of colonial chroniclers through the progressive refinements of theme, local color, style, and narrative technique characteristic of this oldest and most favored of Spanish American literary genres. Particular attention will be paid to those authors and stories that represent the landmarks in the shorter narrative tradition: writings of Rubén Darío, Horacio Quiroga, Borges, Fuentes, Cortázar, Rulfo. Conducted in Spanish.

Semester 1 Staff

206 SPECIAL TOPICS IN SPANISH

Variable credit.

Semesters 1, 2, Modular Term Staff

207 FIELD WORK IN THE HISPANIC COMMUNITY

Students will have supervised contact and work in one of a variety of community agencies and projects servicing the Hispanic community in Worcester (Bilingual school programs, Casa de la Comunidad, Worcester Legal Services, etc.). Students participating in particular field projects will be assigned to a member of the department and/or persons in related academic departments. Under the direction of the adviser, students will be placed in a particular community project. Through consultation with the campus adviser and a designated supervisor from the cooperating agency, the student will work with members of the Hispanic community while developing a written project related to the particulars of language, culture, and related problems of the bilingual community in Worcester. Prerequisites: proficiency in Spanish as determined by the department; successful completion of course work in the field or fields related to the specific project area; permission of instructor. Offered for variable credit.

Semesters 1, 2 Ms. Nigrosh, Staff

Spanish 245 THE MODERN SPANISH NOVEL

A number of nineteenth century novels will be read. The twentieth century will be represented by such outstanding novelists as Galdós (who bridges the nineteenth and twentieth centuries), Unamuno, Valle-Inclán, Baroja, and Delibes. Conducted in Spanish. Prerequisite: Grade of B— or higher in a third-year course above Spanish 131.

Semester 2 Mr. Barbera

SPANISH COURSES CONDUCTED IN ENGLISH

Spanish 272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This is a cluster course in which literature, geography, and philosophy provide integrated perspectives on the phenomenon of the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical, geographic, economic, literary, architectural, and other cultural dimensions of Hispanic, Anglo-American, and European notions of the city. Conducted in English. (See also Comparative Literature 272.)

Not offered 1979–80 Mr. D'Lugo

French

See Department of Foreign Languages and Literatures.

Geography

DEPARTMENT FACULTY

Leonard Berry, Ph.D., Director, Graduate School of Geography, Professor of Geography, Codirector International Development Program*
Martyn J. Bowden, Ph.D., Professor of Geography
Gerald J. Karaska, Ph.D., Professor of Geography, Editor of *Economic Geography*
Roger E. Kasperson, Ph.D., Professor of Geography, Government and International Relations
Robert W. Kates, Ph.D., Professor of Geography and Research Professor
Duane S. Knos, Ph.D., Professor of Geography
Raymond E. Murphy, Ph.D., Professor of Economic Geography Emeritus
Henry J. Warman, Ph.D., Professor of Geography Emeritus
Anne Buttimer, Ph.D., Associate Professor of Geography
Sharon Nicholson, Ph.D., Assistant Professor of Geography
Douglas L. Johnson, Ph.D., Associate Professor of Geography
William A. Koelsch, Ph.D., Associate Professor of History and Geography, University Archivist
Laurence A. Lewis, Ph.D., Associate Professor of Geography
J. Richard Peet, Ph.D., Associate Professor of Geography*
Harry Steward, Ph.D., Associate Professor of Geography
Philip O'Keefe, Ph.D., Visiting Associate Professor of Geography
Harry E. Schwarz, Professor of Environmental Affairs
Richard A. Warrick, Ph.D., Research Assistant Professor of Geography
Kirsten Johnson, Ph.D., Assistant Professor of Geography
David C. Major, Ph.D., Affiliate Professor of Geography
Daniel M. Dworkin, Ph.D., Research Associate Professor of Geography, Affiliate
John E. Seley, Ph.D., Associate Professor of Geography, Affiliate
Saul B. Cohen, Ph.D., Research Professor of Geography

*On leave 1979–80

STAFF

Vacant—Map Curator
Herbert C. Heidt, Senior Cartographer and Manager, Cartography Laboratory
Katherine A. Parella, Administrative Assistant

Each year the School of Geography has in residence or as off-campus affiliates a number of research affiliates.

When the Graduate School of Geography was organized in 1921, Clark became the second university in the United States to establish a separate graduate program in Geography. At present, advanced training is provided leading to the master's and doctor's degrees. In addition, the school offers an undergraduate major, and seven- and five-year programs (B.A./Ph.D. and B.A./M.A. degrees). Clark is a center for geographical training and research in the United States, and its various offerings provide a maximum of individual attention through student-teacher dialogue.

DISTINCTIVE FEATURES AND SPECIALIZATION

The School of Geography is housed in modern quarters in the University's Academic Center. Graduate students and senior geography majors are assigned carrels in the Geography Workroom. The workroom and other sections of the Geography Building contain specialized equipment and research facilities for the use of students and staff. The John K. Wright Reading Room contains the Graduate School of Geography's working reading collection. The core of this collection is the personal library of Dr. John K. Wright. The collection is continuously updated by the addition of new publications in the field of Geography and subscriptions to major geographic and scientific journals. A Curriculum Library is also located in this reading room. The Libbey Library of the Geography Workroom serves as a student lounge.

The Guy H. Burnham Map Library is a multifaceted, special library staffed by a professional librarian. It is one of five federal depositories for maps and charts. The collection consists of over 120,000 maps, charts, atlases, aerial photographs, and globes. Many supportive materials are on-hand; others can be obtained through interinstitution or interlibrary cooperation. The library is designed to meet the geographic needs of the Clark community and the central Massachusetts area.

Cross-disciplinary training (as evidenced by the joint appointments held by Geography faculty with other departments); the clustering of faculty research and teaching interests in several areas related to environmental affairs/management, cultural/humanistic, physical geography of human systems, international development/political economy, urban/social/planning, and cartography currently characterize the school.

PUBLICATIONS

A professional magazine, *Economic Geography,* is edited by a faculty member. Started at Clark University in 1925, it is the only journal published in English that specializes in economic and urban geography. The magazine has a worldwide distribution with a total circulation of about 5,000.

Through the years, graduate students have maintained the Clark University Geographical Society (CUGS). The annual publication, *Monadnock,* keeps School of Geography alumni in touch with each other and with news and scholarly activities of the school.

UNDERGRADUATE PROGRAM

The undergraduate Geography program covers a three-year period (sophomore-senior), during which 50–80 percent of the course time is accounted for within the program. A minimum set of Geography requirements is built into the major, and much of the student's work in cognate fields will be carried on through the advice of the adviser and in the context of individual needs and capacities.

Emphasis in the undergraduate major is on broad training in the field. Within this training some specialization is facilitated by the organization of courses in concentrations.

There is a formally structured departmental advisory system in which every declared undergraduate major has a specific adviser. Each semester, student course selection must be approved by the adviser.

Courses are sequential to allow progressively greater use of skills from 0 level to 100-level to 200–300-level courses. The recognized areas of concentrated interest at the undergraduate level are:

a) cultural/humanistic
b) environmental affairs/management
c) physical geography of human systems
d) regional/international development/political economy
e) urban/social/planning
f) cartography—as cartography has fewer faculty than the other groups, there will be limited offerings in this area.

The following diagram shows the pattern for an undergraduate major. The introductory course is followed by a choice of two out of three 0-level courses. Two skill courses form part of the 100-level offering, and, in addition, the 100-level courses provide an opportunity for all students to concentrate on writing skills. Each major will designate one 100-level course as a writing skills course. Majors are required to take at least one out of five "problems" courses and precede this by a 200-level course in the same "stream." Each student takes five elective courses in Geography; one of these must be a "problems" course.

THE GEOGRAPHY UNDERGRADUATE MAJOR

0-Level	0-Level	100-Level	200-Level	300-Level
Beginning	*Introductory*	*Special Skills and Substance*	*Advanced*	*Capstone*
Survey of Geography	Human/ Cultural Geography Geography of Physical Systems Economic Geography	14 topical courses with emphasis on writing skills + Skills in Mapping, Statistics, Field Studies, Computer, Language	20-plus courses often shared with graduates Concentrated advanced study, usually seminar format	5 "problems" courses; each a review of the field
Compulsory	2 out of 3	At least 2 skills plus 1 other	At least 1	At least 1

Skills Courses

To meet the skills requirement, two of the following courses must be successfully completed: Mapping Fundamentals, Computer Programming, Geographic Statistics, a field skills course (e.g., Historical Geography of New England—Field Techniques in Geomorphology), a language to at least first semester second-year level, optional skills. (Optional skills courses can be substituted for one of the skill courses with permission of the advisor and director.)

The selection of the skills courses must be approved by the adviser and the director.

For those taking a dual or interdisciplinary major, the following are required: Survey of Geography (011), one of the "problems" courses, one of the following introductory courses—Physical (014), Economic (015), Cultural (017)—two of the "skills" courses, a minimum of three other elective Geography semester-courses that are clearly linked to the cognate field—including problems courses.

Since 1971-72, formal seven- and five-year programs for Clark undergraduate students have been offered, leading to the Ph.D. and M.A. degrees in Geography. At the undergraduate level, applicants must major in Geography or a dual or interdisciplinary field and make application at the end of the junior year. The B.A./Ph.D. program may include the sixth year off campus, in residence at another university or agency. Admission is limited to a very small number of highly qualified students. For specific information, contact the director of the School of Geography. Applications to these programs should be submitted to the Geography Office no later than May 15.

THE GRADUATE SCHOOL OF GEOGRAPHY—PH.D. PROGRAM

Admissions: Applicants without prior training in Geography are welcome. Depending on their concentrations, they may be required to improve their knowledge of elements of Geography, Economic Geography, Cartography, or Descriptive Statistics. Courses taken to remedy any deficiencies will not count as part of the regular program. The Graduate Record Examination scores (Verbal and Quantitative) are required of all students with the exception of those in foreign countries. The G.R.E. Advanced Placement Test in Geography is desirable, but not required.

Degree Objectives: The graduate program in Geography at Clark has been derived from a synthesis of faculty-student discussions, documents, and experiences. The Ph.D. training program is the central thrust in the Graduate School of Geography at Clark. The School of Geography fosters student and faculty exchange with other institutions, including institutions outside the field of Geography and with Geography departments elsewhere. Clark has long encouraged ties with foreign students and faculty. Focus in recent years also has included links with developing institutions in the U.S. by training prospective faculty and by facilitating programs.

The graduate program aims at at least seven outcomes in the education of prospective members of the Geography community:

1) development of competence in the content of Geography and research skills
2) development of a sense of problem (for research problems are at the core of an experiential learning process)
3) development of divergent thinking skills from which creative and original ideas evolve
4) development of a sense of the tentativeness of knowledge and a patience with ambiguity
5) development of a tough-minded learning discipline
6) development of sense of self-confidence and competence
7) development of a sense of the nature of the community of geographers.

With these philosophical guidelines in mind, we have attempted to outline a program that will enable students to focus their learning experience. These structures are not meant to be superimposed limitations, rather they are an attempt to provide a personal focus for students.

Program Structure: The graduate curriculum is organized to give a broad view of the field of Geography and its teaching, as well as a specialized approach to selected subfields. The subfields are organized in accordance with the interests and competencies of the staff. The subfields include: Cultural/Humanistic, Environmental Management, Physical Geography of Human Systems, Regional/International Development/Political Economy, Urban/Social. In addition, ongoing projects conducted by research groups in the Geography Department and the Center for Technology, Environment and Development should be considered an integral part of the graduate curriculum; students may choose to structure their programs around such collaborative research endeavors.

The first year of graduate study (for the incoming B.A. or B.S.) is planned to broaden the student's knowledge of the field of Geography and help define student interests in the context of the Clark program. For the incoming M.A., this period will help the student become familiar with the field of Geography at Clark. Courses, including directed readings, are the primary mode of study. Students are encouraged to take two or three "problems" courses and to sit-in on the meetings and seminars of at least one research group.

A departmental colloquium course serves the entire community, with the expectation that all graduate students and faculty will attend. Themes for the course will vary from year to year. The course introduces first year students to the program and to ongoing intellectual work in the department.

At the end of the first year, a formal review of the student's first year work and planned future program will be conducted by a three member Evaluation and Program Planning Committee. The chairman should be appropriate for the student's field of interest, and the other two members will be chosen by the chair in consultation with the student and the director, and may include one person outside the department. The chair should distribute copies of the work under review to committee members at least two weeks in advance of the meeting; the student should consult at least once with each committee member before the evaluation meeting so that the individual members are familiar with the student's interests and tentative program plans. The review, then, will include an evaluation of selected written work produced during the year, and a tentative plan for the remainder of the program, with special emphasis on the second year. A written statement of the review will be forwarded to the director and appended to the student's record. This evaluation and planning review is envisioned as a vital diagnostic tool, which identifies problems or needs, and plans for development.

The Evaluation and Program Planning Committee will continue in its advisory role throughout the second year. The student will consult with committee members on a regular basis to establish specific goals for this phase of graduate study, to discuss problems and progress, and to present the products of the student's work.

The second year should emphasize the graduate learning mode through in-depth work in the student's field of interest, through focus on problem formulation and through direct experience with research. To this end, the student generally will not enroll in courses for the first semester of the second year, unless there are particular reasons to do so. Most probably, this year will involve working closely with a single faculty member of a group of faculty and students in a teaching, research, or applied activity.

The remainder of the second year will be devoted to the progressive development of conceptual depth and skills, with a focus on background work in the dissertation field, proposed formulation, and preparation for orals. An effort should be made to integrate these tasks within a comprehensive research program. Students are encouraged to structure their programs around collaborative research projects with each other and with committee members engaged in ongoing research efforts.

No later than the end of the second year, an orals committee will be established, unless the advisory committee has determined that another course should be taken. The orals committee will (probably, but not necessarily) involve members of the advisory committee. The orals committee should consist of a minimum of five members, including at least three from the Geography department, in order to promote an atmosphere of collegiality and create an opportunity for interdisciplinary interaction.

In the organization of the curriculum in a specialized, structured manner, there is neither the intention nor the desire to exclude faculty and students who do not wish to operate within the framework of a formal subfield. Students may wish to create personalized programs or fields of concentration outside of the formal subfields; these options are limited only by the general nature of the offerings and the interests and competencies of the staff.

Ph.D. Examination

The orals will be a three-hour examination on three topics or areas:

(a) the major field of study, which should be a broad subfield within the discipline of Geography and would (presumably) be the field within which the dissertation lies (90 minutes)

(b) two minor areas, (45 minutes each) including the following possibilities:
  - —a dissertation proposal
  - —methodology (should be relevant to proposed dissertation)
  - —subfields in Geography unrelated to major
  - —subfields in Geography related to major
  - —the specific literature and problem of the dissertation
  - —a field or subfield within another discipline

The orals committee will encourage breadth in substantive pursuits as well as a certain depth of knowledge of methodological and philosophical concerns relevant to a student's interests.

The student may opt for either a 45-minute oral or a three-hour written examination in each of the two minor fields. Selection of fields should be made in consultation with the major adviser and the other committee members at least two months in advance of the examination dates and is subject to departmental approval. In selecting the three fields, breadth in an interrelated set of subfields, depth in connection with the proposed dissertation topic, competencies and availability of staff are considerations.

Under normal circumstances, it is expected that the language requirement (or an alternative) will have been met successfully prior to the student's taking the Ph.D. examination. Approval of the dissertation proposal may precede the Ph.D. examination. Doctoral examinations normally are not conducted between May 1 and September 15 and should be requested 60 days before the desired date. Responsibility for convening the committee for the examination is taken by the department secretary on request of the student.

Language and/or Alternate Requirement

Alternative options to examination in a traditional foreign language are available. These include: (1) computer science, (2) statistical methods, (3) cartography; in addition, other options can be required or made available by individual concentrations with the approval of the faculty. The requirement varies with the concentration.

Committee System for Ph.D. Dissertation

The dissertation committee is composed of five faculty members, with responsibilities for: (a) approval of the outline, (b) reading and reviewing of the dissertation (two readers and three reviewers), (c) participating in the dissertation defense. The committee will include two external members (second reader and/or reviewers). External members may be drawn from the field of Geography outside the University or from other departments within the University. When the dissertation proposal has been approved by the entire committee, or majority, a letter to this effect shall be submitted to the Geography Office by the first reader together with 15 copies of the proposal. The director of the school will then circulate the proposal to each member of the faculty for comments, and final approval will be made at the end of two weeks by the director in light of these comments.

The dissertation proposal should be a concise, focused document (we are mindful of the new NSF limit of 15 pages) stating the problem, proposed methodology, and timetable.

The dissertation should be reasonable in terms of goals, length, and effort expectation, and should be organic to continuing scholarship.

When a draft of the dissertation has been approved by the committee, three copies of the draft with a letter of approval signed by the first reader, will be submitted to the Geography Office. The director will then inform the faculty that these copies are available for examination for a period of two weeks. Any time after the end of the two-week period, the defense may be scheduled. In addition to the committee, any member of the Clark faculty is invited to participate in the defense. A week before the defense date, notices will be given of the defense to the dean of the Graduate School. If the defense is adequate, then the dissertation in final form is delivered, with two copies, to the departmental office, and the ribbon copy, to the Registrar.

Formal Course Requirements

Other than those courses considered prerequisite to the specialized or individually-tailored program, no formal course requirements are set. It is the full responsibility of a student's adviser to require that a student take courses in areas of deficiency. Such courses might be required on a formal basis, on an audit basis, or through organized readings.

Resident Requirement

A three-year residence beyond the B.A. degree is required for the Ph.D. program. One of the years in residence must be the year in which the dissertation proposal is submitted and approved, and, as part of the three-year residence, the student must remain in residence for one semester (or one summer under direct supervision) following approval of the outline to work on the dissertation. After approval of the dissertation proposal, if the dissertation is not completed by the end of four years, the proposal must be submitted for reapproval. One prerequisite for such reapproval is provision for one academic semester's residence during the next year to work on the dissertation. (Twelve weeks during the summer is considered the equivalent of an academic year semester for this purpose, with the proviso that a faculty member be in residence at Clark during the summer and expresses a willingness to supervise.) Upon completion of all formal requirements, save the completion of the dissertation, the student is expected to file for candidacy with the Graduate School, unless specific permission not to file is granted by the School of Geography. Students entering with an M.A. in a field other than Geography will be expected to take essentially the three-year residence program. Students entering with an M.A. in Geography from another institution may expect to complete their residence in five semesters or two and one half years.

Teaching and Research Prerequisite

Some teaching and research experience at Clark is prerequisite to the doctor's degree and the terminal M.A. degree. Every effort is made to organize various forms of internships to provide on- and off-campus training activities, at the teaching and research levels.

MASTER OF ARTS

Although the thrust of the Clark Geography Program is at the doctoral level, two types of M.A. degrees will be made available:

A) *The Predoctoral M.A.*

Students working toward the Ph.D. will be granted, upon request, an M.A. degree at the end of the required residence period, having completed (a) a formal research paper approved by the concentration adviser; (b) required course work; (c) the Ph.D. preliminary examination; and (d) the dissertation proposal.

B) *The Nondoctoral M.A.*

Normally no later than at the end of the first semester of the second year of residence, after a review process, students may opt or may be advised to shift to a terminal M.A. degree, under which circumstances they will be expected to drop one or two courses in order to write a thesis. This thesis should be a research paper or short article (15–30 pages) demonstrating an ability to define a problem as well as serving as evidence of research competence. The thesis should meet the form and standards of a professionally acceptable article and will be defended at the master's oral examination.

After approval by a committee consisting of the major adviser and two other faculty of the student's choosing, three copies of the final draft with a letter by the major adviser noting committee approval will be delivered to the Geography Office. The director will then announce to the faculty that the draft is available for examination. Any time after the end of 10 days, the defense may be scheduled. In addition to the committee, any member of the Clark faculty may be invited to participate in the defense. A week before the defense date, notice will be given of the defense to the dean of the Graduate School.

Following defense of the thesis, two final copies are delivered to the departmental office, and the ribbon copy, to the Registrar. Thesis defense should be conducted six weeks prior to commencement.

COURSES

011 SURVEY OF GEOGRAPHY

This survey provides a general conceptual framework for understanding modern geography. Emphasis is placed on the interrelation of various approaches to geographic research as presently conducted in the Graduate

School of Geography. Urban physical (climatology, soils, biogeography, and land form studies), economic, political, social, cultural, historical, and regional themes will be developed with approximately one third of the lectures being given by various staff members. The course is designed primarily for freshmen and sophomores and is a required course for Geography majors.
Semester 1 Mr. Bowden

013 FIELD STUDIES OF ENVIRONMENTAL ISSUES

Explore the Worcester region and its environmental issues; learn to do field research, analyze findings, and present results to others. Limited to 40 freshmen and sophomores working together in small groups. Also listed for credit as Environmental Affairs 013.
Not offered 1979–80 Mr. Kates

014 INTRODUCTION TO PHYSICAL GEOGRAPHY AND ENVIRONMENTAL MANAGEMENT

This course is a basic inquiry into components of geomorphology and climatology. The role of man as a critical agent in physical geography is included by looking at inadvertent climatic modification and alteration of the earth's surface by man's activities. Course includes labs and field trip.
Semester 2 Mr. Lewis

015 INTRODUCTION TO ECONOMIC GEOGRAPHY

This is an introduction to economic geography including an outline and critique of theories of location and economic development. Also listed for credit as International Development 015.
Semester 1 Mr. Knos, Mr. O'Keefe

017 INTRODUCTION TO CULTURAL GEOGRAPHY

The course is an ecological and historical approach to the study of cultures and culture change in a spatial context. A series of broad themes and problems are illustrated by case studies. Among the major themes to be considered are: adaption to environment; culture in prehistory; migration and the creation of culture areas; the world views of primitive, traditional, and industrial culture; culture landscape and the cultural geography of the United States. A schedule of three lectures and one discussion per week are integral parts of the course.
Semester 2 Mr. Johnson

089 INTERNSHIPS IN GEOGRAPHY

The course consists of faculty supervised internships to assist students in integrating academic theory with practical experience. Students are able to do extended research in a specific area of interest. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

098 READINGS IN GEOGRAPHY

The course offers directed readings for undergraduates in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

099 RESEARCH IN GEOGRAPHY

This course is special research projects for undergraduates in an area of

their choice. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

110 INTRODUCTION TO STATISTICAL GEOGRAPHY

Principles of inferential statistics will be introduced. These will include point estimation, internal estimation, sampling distributions, hypothesis testing, and correlation techniques.
Semester 1 Mr. Karaska

114 DYNAMICS OF THE EARTH SURFACE

This is an examination of the earth's physical landscapes including the processes that shape the landforms as well as the evolution of landscapes. This inquiry will investigate the roles of water, ice, wind, and human activity on the erosional and depositional processes.
Semester 1 Mr. Lewis

117 CULTURE LANDSCAPE

The point of departure for this course is the tradition of landscape studies in American Geography. The focus of attention is directed to an exploration of the processes that have shaped the landscapes of China, South Asia, the Middle East, western Europe, and the New World, among others. Artistic, literary, historical, and ecological perspectives on landscape as well as methodologies for analyzing and reading landscape are included.
Semester 2 Mr. Johnson

122 INTRODUCTION TO CLIMATOLOGY

The principles of dynamic climatology and microclimatology are presented. Frameworks for classifying climates will be explored.
Semester 2 Ms. Nicholson

125 DEVELOPMENT PROBLEMS

Refer to course description under International Development 125. Also listed for credit as History 125.
Semester 1 Mr. Ford

129 LATIN AMERICA: ISSUES AND PROBLEMS

The course will review some of the main issues confronting modern Latin America including rural poverty, the extinction of Indian populations, uncontrolled urban growth, dependent industrial development, and issues in agricultural production. These issues will be analyzed in the light of differing theoretical explanations regarding the nature and dynamics of underdevelopment, and in relation to commonly proposed solutions, such as self-help housing, agrarian reform, and colonization. Also offered for credit as International Development 129.
Semester 1 Ms. Johnson

140 CITIES AND CULTURE

Studies of different internal structures and patterns of urban place in areas of traditional urbanization and in the developed and developing worlds. Emphasis will be upon the world views, cosmology of different culture groups, and the expansion in cities.
Semester 1 Mr. Bowden

157 RESOURCE MANAGEMENT

The course provides an introduction to the salient concepts, issues, and debates in the field of resource management. It focuses on three central themes: 1) the evolution of environmental ethics and the practice of resource management, 2) the relationship between economic growth and environmental quality, 3) the process of decision making in resource management. In addition, a number of illustrative case studies are examined. Also listed for credit as International Development 157.

Semester 1 Ms. Johnson

158 AGRICULTURAL GEOGRAPHY

The course consists of the examination of agricultural systems, their processes, problems, and prospects; in part, the course will focus on issues of agricultural decision making, culture and agriculture, food production, distribution and hunger, technology and resource requirements, environmental impacts, and alternative agricultural futures. The course will draw upon case studies in North America, Asia, and Latin America.

Not offered 1979–80 Staff

159 GEOGRAPHY OF RECREATIONAL PLANNING

This course deals with the changing meanings and uses of leisure and recreation, problems in the evaluation of outdoor recreation as a resource, issues in the management of outdoor recreational facilities including both urban and wilderness recreation, and case studies in applied recreational research. The aim is to introduce students to the variety of philosophical concepts and methodological techniques associated with modern research in recreation.

Semester 2 Mr. Warrick

163 DYNAMICS OF CITY GROWTH

The course offers a historical approach to study of the changing internal structure of urban areas, theories, and models of city growth in Europe and North America from 1100 A.D. to the present. Prerequisite: permission of instructor.

Not offered 1979–80 Staff

171 SOCIAL GEOGRAPHY

This is an overview and survey of social problems of cities. Designed specifically as an introductory course, it includes examination of major issues from theoretical and empirical standpoints.

Semester 2 Ms. Buttimer

181 MAPPING FUNDAMENTALS

An introduction to the fundamentals of map logic, graphic methods, map reading, and air-photo interpretation, with an emphasis on the use of mapping products as basic geographic tools.

Semester 1 Mr. Steward

188 GEOGRAPHIC AND ENVIRONMENTAL PROBLEMS IN ISRAEL

A problem-oriented course emphasizing the rural and urban settlement process in both historic and contemporary settings. Particular emphasis upon changing patterns and planning for the year 2000. (Formerly Geography 288.) Cross-listed with Judaic Studies.

Semester 2 Staff

191 INTRODUCTION TO MAP MAKING AND CARTOGRAPHY

This is an introduction to cartography and the mapping process, with emphasis on problems of data collection, scale compilation, and selection of cartographic method. Topics include fundamental aspects and use of major types of map projections and examination of transformations to non-geographic spaces (cartograms). Prerequisite: Mapping Fundamentals or permission of instructor.

Semester 2 — Mr. Steward

205.2 EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR

This seminar serves to help student teachers deal with specific kinds of problems which they face in the classroom. Experiences are shared and discussed. The seminar is designed to help student teachers develop their own classroom curriculum and teaching techniques. Also listed for credit as Education 205.2.

Semester 1 — Mr. Knos

206 AUTOBIOGRAPHY WORKSHOP

The course offers a consideration of how students have learned in their own lives as a prerequisite to helping others to learn. The course seeks to engender an appreciation of both uniqueness and generalization in the process of teaching any social science discipline. Also listed for credit as International Development 206 and Education 206.

Semester 1 — Mr. Knos

208 SEMINAR IN ENVIRONMENTAL PERCEPTION, COGNITION, AND BEHAVIOR

This is a seminar on the theory, methods, and research findings on environmental peception, cognition, and behavior. Also listed for credit as International Development 208. (Formerly Geography 332.)

Semester 2 — Ms. Johnson

209 SIMULATION AS A LEARNING DEVICE

This course is designed to provide experience in the development of simulations to illustrate a variety of geographic concepts. Concepts will be defined; illustrations in the real world will be formulated; simulations of these situations will be developed.

Semester 2 — Mr. Knos

212 COMPUTER PROGRAMMING

Fundamentals of FORTRAN IV are presented. Designed for students with no mathematics beyond high school. Emphasis is on numeric applications.

Semester 2 — Staff

213 PROBLEMS IN PHYSICAL GEOGRAPHY OF HUMAN SYSTEMS

Advanced seminar will discuss two main themes: 1) the development of historical geomorphology through the nineteenth and twentieth centuries (Special attention will be given to the historical development of current important research trends.) 2) an analysis of current ideas on landscapes of arid areas with special relation to the arid southwest section of the United States and the Sahara. (Formerly Undergraduate Seminar in Geomorphology.)

Semester 1 — Mr. Lewis

215 FLUVIAL PROCESSES IN GEOMORPHOLOGY

The focus will be on the relations between hydrology and geomorphology. The basic properties of hydraulic geometry, erosion, and deposition will be explored.

Semester 1 Staff

216 GEOMORPHOLOGY AND CLIMATOLOGY OF ARID LANDS

An analysis of the landscapes of arid areas of the Earth and the dynamics under which they operate with special relation to the arid southwest section of the United States and the Sahara.

Semester 1 Mr. Lewis, Ms. Nicholson

217 HISTORY OF CARTOGRAPHY

A basic survey of the history of mapping up until about 1900. Topics will include the methodological basis of investigations into the subject, maps of primitive peoples, the classical, medieval and Renaissance periods, the rise of national surveys, the relationship of mapping with exploration, and the cartography of North America.

Semester 2 Mr. Steward

221 APPLIED SURFACE WATER HYDROLOGY

Refer to course description under Environmental Affairs 221.

Not offered 1979–80 Mr. Schwarz

223 HUMAN ACTIVITIY AND GEOMORPHOLOGY

The role of man as the principal geomorphic agent in both urban and rural environments is emphasized. The problem of integrating economic activity within the constraints of the physical environment to minimize negative geomorphic responses will be explored.

Not offered 1979–80 Mr. Lewis

224 MAPPING FOR INTERNATIONAL DEVELOPMENT

This course will seek to set the current state-of-the-art/future potential of mapping techniques and technology in an international development context. It is planned to augment the lectures and project work with field trips to the cartographic sections of relevant agencies, e.g., United Nations, World Bank, Organization of American States, etc. Also listed for credit as International Development 224.

Semester 2 Mr. Steward

226 TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT

For advanced students, this is an introduction to the theory and methods of risk assessment and hazard management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation. Also listed for credit as Environmental Affairs 226 and Science, Technology and Society 226.

Semester 2 Mr. Kates

228 MANAGEMENT OF ARID LAND

The drylands of the world present special development problems. Peculiarly prone to degradation, these regions face the difficult task of providing support for a rapidly growing population. Viewed in a historical perspective, the demography, social and livelihood systems, behavioral

characteristics, and physical constraints of dryland ecosystems will be analyzed. Special attention will be paid to evaluating the management strategies currently employed in their use, identifying the obstacles constraining their growth, and assessing their future development potential. Also listed for credit as International Development 228.
Semester 1 Mr. Johnson

231 SEMINAR: POLITICS AND THE ENVIRONMENT
This is a state-of-the-art analysis of theory and methodology in this field intended for the student with professional career aspirations or for advanced study. Topics include the concept of the public interest, public attitudes toward the environment, regulatory agencies, decision making theory, the role of Congress, etc. A major seminar presentation and substantive research paper will be required. Also listed for credit as Environmental Affairs 231 and Government 231.
Semester 2 Mr. Kasperson

233 GEOGRAPHY OF PUBLIC SERVICES
Using the American city as the locus of study, this course analyzes current patterns and problems in the distribution of public services to local citizenry. The first half of the course deals with theory, methodology, and case example; the second, with student research on public service delivery in the Worcester area. Limited to 25 students. Also listed for credit as Government 233.
Semester 1 Staff

236 GEOGRAPHY OF INTERNATIONAL DEVELOPMENT
This course will examine economic ecological spatial theory of underdevelopment. Case studies will be taken from Asia, Africa, and Latin America. Students will be expected to submit a written project indicating specialized research knowledge in one of these areas. Also listed for credit as International Development 236.
Semester 2 Mr. O'Keefe

244 SEMINAR IN CLIMATIC CHANGE
Consideration of climatic change with emphasis on types of data and methods of analysis useful to the reconstruction of past climates. Ancient times will be considered by looking at historic (quantitative and qualitative) and "nonhistoric" (geological and biological proxies) data. Prerequisite: Geography 122.
Semester 1 Ms. Nicholson

245 PROBLEMS IN URBAN GEOGRAPHY
A synthesis of urban geography is emphasized. This is accomplished through readings, discussion, and problem formulation. The latter involves research design and execution. Prerequisite: two courses in Urban Geography stream.
Semester 1 Mr. Karaska

247 INTERMEDIATE STATISTICAL TECHNIQUES
This is a study of statistical methods and spatial statistics in geography. Topics will include estimation, hypothesis testing, simple and multiple regression, and correlation techniques. Canned computer programs will be used in case studies whenever possible. Prerequisite: introductory statistics.
Semester 2 Staff

249 PROBLEMS IN HUMANISTIC GEOGRAPHY

This course will cover problems in philosophical differences, approaches, and methodology, followed by consideration of academic problems, technical/data problems in the handling of sources, and practical and current "problems," which specialists in the "stream" find themselves addressing as consultants, planners, and research workers.

Semester 1 Mr. Bowden

251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT

An inquiry into current issues of scholarly debate in the field of environmental management. Also listed for credit as Environmental Affairs 251.

Semester 1 Mr. Kasperson

253 HISTORICAL GEOGRAPHY OF NEW ENGLAND

A lecture, seminar, and field course concerned with specific research problems in the historical geography of New England. The course concentrates on, but is not limited to: 1) the 1820–1860 period, 2) settlement patterns and the rural landscape, and 3) industrialization and the rise of mill technology. Cross-listed with American Studies.

Semester 1 Mr. Johnson

255 HISTORICAL GEOSOPHY: IMAGES OF THE AMERICAN WEST

A historical approach to the study of perception of regions, space and territory, landscape and physical environment, with special emphasis on the American West 1800–1973. Emphasis will be on sources and techniques.

Semester 2 Mr. Bowden

261 URBAN ECONOMIC GEOGRAPHY

This course offers a systematic study of external and internal spatial relationships of cities and city systems. Urbanization is viewed as a process in spatial organization involving mutual interrelations among decision units.

Semester 2 Mr. Karaska

264 CULTURAL ECOLOGY OF PASTORAL SYSTEMS

Comparative cross-cultural analysis of a number of pastoral resource-use systems. Emphasis is placed on, but not limited to, traditional pastoral middle latitudes. Alternative development strategies for modernization and social change within these systems will also be studied, using case studies and the analysis of individual development projects.

Semester 2 Mr. Johnson

265 SIMULATING THE CITY

The course involves representation and analysis of city organization and function by use of games, role playing, and other devices.

Semester 1 Mr. Knos

268 VALUES IN GEOGRAPHY

Critical examination of some major themes and schools of geographic thought. Prerequisite: course background in geography.

Semester 2 Ms. Buttimer

269 AGRICULTURE AND DEVELOPMENT

The course will treat the problem of contemporary transformations in agricultural production, reviewing both theory and specific case studies. Special attention will be paid to peasant production systems and their articulation within broader social structures. Two forms of agricultural transition out of subsistence production will be analyzed in detail: the transition to collective agriculture in the Soviet Union, and the transition to agribusiness, both in the U.S. and the Third World. Also listed for credit as International Development 269.

Semester 2 Ms. Johnson

270 TIME AND SPACE IN THE CITY

An attempt is made to examine selected themes and research models concerning the experience of people in urban milieux.

Semester 1 Ms. Buttimer

272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This is a cluster course conducted primarily as a senior seminar in which Comparative Literature, Geography, and Philosophy will provide integrated perspectives on the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical geographic, economic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City.

Not offered 1979–80 Mr. Bowden

275 CITIZEN PARTICIPATION

Erosion of public confidence in the institutions and professionals charged with managing societal affairs is commonplace and has brought forth proposals that decision making be conducted more openly and with full opportunity for citizen participation. This course explores a range of theoretical and practical issues surrounding this concept, with particular reference to situations involving the social control of technology (e.g., regulation of public health) and environmental protection (e.g., planning of major public works projects). Major theories regarding the nature and forms of participation will be examined, and contemporary experience with participatory programs will be reviewed. Also listed for credit as Government 275, Environmental Affairs 275, and Science, Technology and Society 275.

Semester 2 Mr. Ducsik, Mr. Kasperson

277 MARXIST RESOURCES THEORY

The course offers a Marxist approach to the allocation and management of economic resources, with particular attention to the African setting.

Semester 2 Mr. O'Keefe

280 PLANNING ISSUES

This is a broad introduction to issues in planning including economics, social, and political concerns. The focus will be on actual and hypothetical examples.

Semester 2 Staff

281 PLANNING INTERNSHIP AND INTERNSHIP SEMINAR

This is an individual internship with a public or private agency involved in planning; offered in conjunction with a seminar. The internship will be

under the supervision of a faculty member in the planning cluster or a related area. The seminar will be designed to help the student understand and strengthen his/her internship experience and will be attended by various faculty in the planning cluster, as well as others with relevant internship experience.
Not offered 1979–80 Mr. Knos

282 PLANNING STUDIO 1: SKILLS

This course offers a problem-oriented approach to the learning of basic skills necessary to urban and regional planning. Case and exercise format will focus on communication and analytical skills including writing, mapping, elementary data handling, graphs, computers, and presentations.
Not offered 1979–80 Mr. Karaska

283 PLANNING STUDIO 2: PROBLEMS

Students will give practical application of planning skills to specific problems. The class will focus on one or more problems and pursue alternative solutions through a teamwork approach.
Not offered 1979–80 Staff

285 ENVIRONMENT AND CULTURE IN THE AMERICAN PAST

Refer to course description under History 242.
Semester 1 Mr. Koelsch

286 GEOGRAPHY OF EUROPE

Historical, cultural, and social geographic perspectives on academic and planning problems in the countries of Scandinavia, the Common Market, and Iberia.
Semester 1 Ms. Buttimer

287 AQUARIUS: PLANNING FOR URBAN WATER RESOURCES

Help wanted. Water resource planners for City of Aquarius to prepare 50–year plan for water supply, water quality, flood control, and recreation. Includes opportunity to use advanced computer simulation. Group collaboration required. Also listed for credit as Environmental Affairs 287 and Science, Technology and Society 287. (Formerly Geography 250).
Semester 1 Mr. Warrick

289 PROBLEMS IN REGIONAL DEVELOPMENT SEMINAR

An introduction to current research on regional decline in advanced capitalist economies. Also listed for credit as International Development 289 and Sociology 289.
Semester 1 Mr. O'Keefe, Mr. Karaska, Ms. Graham
Mr. Shakow, Mr. Ross

290 REMOTE SENSING OF THE ENVIRONMENT

This course will concentrate on the use of remotely sensing instrumentation as a tool for the geographer. Students should develop a working understanding of the electromagnetic spectrum as a guide upon which the geographer may choose a sensor or data for geographic investigation and as a basis for communication with others in the field. Hands-on experience with conventional aerial photo interpretation and Earth Resources Observation Systems data will be emphasized. Also listed for credit as International Development 290.
Semester 1 Mr. Steward

292 CARTOGRAPHIC TECHNIQUES

This is a course in positive and negative artwork and basic photographic methods for map presentation.

Semester 2 Mr. Heidt

293 CLIMATES OF THE TROPICS AND SUBTROPICS

The processes and patterns of the dynamic climatology of tropical and subtropical areas. Particular emphasis is given to the climates of Africa in terms of desertification and current development problems.

Semester 2 Ms. Nicholson

298 INTRODUCTION TO AUTOMATED CARTOGRAPHY

The course studies recent developments in automated cartography as it applies to the production of maps and cartographic data banks. It is an introduction to standard computer mapping programs for production of line printer as well as digital plotter maps to include the digitizer for creative base files and the CRI for editing maps and files.

Semester 2 Staff

307 SEMINAR IN DISASTER PREVENTION IN DEVELOPING COUNTRIES

The course is a critical examination of both the possibility and experience for predisaster planning and prevention activity to reduce economic and social costs of floods, droughts, tropical cyclones, and earthquakes. Also listed for credit as International Development 307.

Semester 1 Mr. O'Keefe

310 RESEARCH SEMINAR IN DEVELOPMENT GEOGRAPHY

The seminar is designed for thesis- and dissertation-level students working in the areas of resources, development and environmental cognition, who are developing proposals or preproposal research papers. The seminar will provide a form for discussion, criticism, and practical advice.

Semester 2 Ms. Johnson

316 SEMINAR IN GEOMORPHOLOGY

The seminar will explore patterns of thought in modern geomorphology focusing particularly on fluvial and mass wasting processes acting directly on hill slopes.

Semester 2 Mr. Lewis

333 TEACHING FIELD STUDIES OF ENVIRONMENTAL ISSUES

This is a parallel course to Geography 013, for Environmental Affairs and Geography seniors or graduate students interested in small group leadership and investigative projects. Limited to 8 students and requires advance consultation with instructor during fall semester.

Not offered 1979–80 Mr. Kates

347 SEMINAR IN SYSTEMS ANALYSIS

This course is designed to develop a closer familiarity with complex models. Students working as a group will either develop or adapt a complex system and test the output on the computer.

Not offered 1979–80 Staff

350 NATURE, SOCIETY AND TECHNOLOGY: THEORY OF HUMAN ENVIRONMENT

Having spent the fall reading, thinking, and writing about the topic, I'll

share with the class what I think I learned.
Semester 2 Mr. Kates

357 REGIONAL WATER RESOURCES PLANNING

Refer to course description under Environmental Affairs 357. Also listed for credit as International Development 357.
Semester 2 Mr. Schwarz, Staff

366 SEMINAR IN COLLEGE CURRICULUM DESIGN

Students will study the development of curriculum with supporting materials oriented toward college undergraduates. Learning in a problem context will be stressed.
Semester 2 Mr. Knos

368 HISTORY OF GEOGRAPHIC THOUGHT

This is a course in the development of some major themes and schools of geographic thought. Prerequisite: course background in Geography. (Formerly Geography 268).
Semester 2 Mr. Koelsch

371 SEMINAR IN SOCIAL GEOGRAPHY

An attempt to view the landscape as an ongoing dialogue (or tension)between people and milieux. On both sides certain filters will be identified—through which people (human subjects) evaluate, use, and perceive the landscape. Particular attention will be paid to problems of urban design, delivery of urban services, and the administrative regionalization of city space.
Semester 2 Ms. Buttimer

COURSES DIRECTLY RELATED TO GEOGRAPHY OFFERINGS

For descriptions and details, please refer to course listings within the departments.

Environmental Affairs 201 APPLICATIONS OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS

Half Course, Semester 1, First Half Mr. Schwarz

Environmental Affairs 202 THE BIOSPHERE

Half Course, Semester 1, Second Half Mr. Erickson

Environmental Affairs 203 MAN'S PERCEPTION OF HIS ENVIRONMENT

Half Course, Semester 2, First Half Ms. Johnson

Environmental Affairs 204 ENVIRONMENT PLANS AND PROGRAMS

Half Course, Semester 2, Second Half Mr. Schwarz

Geology 011 INTRODUCTION TO PHYSICAL GEOLOGY

Semester 1 Staff

Sociology 247 URBAN SOCIOLOGY

Semester 2 Mr. Ross

STS 101 INTRODUCTORY CASE STUDIES
Semester 1 Mr. Hohenemser, Mr. Schwarz
Semester 2 Mr. Ducsik, Mr. Johnson

STS 116 PRINCIPLES OF MODELLING
Semester 1 Mr. Puccia, Mr. Gould

STS 155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT
Semester 2 Mr. Shakow

STS 231 ELECTRICITY PLANNING AND REGULATION
Semester 1 Mr. Ducsik, Mr. Shakow

STS 245 ENVIRONMENTAL MANAGEMENT IN PHILOSOPHICAL PERSPECTIVE
Semester 2 Mr. Puccia

Geology

DEPARTMENT FACULTY

Judith Rehmer, M.A., Assistant Professor of Geology*
Laurence A. Lewis, Ph.D., Associate Professor of Geography
Rudolph F. Nunnemacher, Ph.D., Professor of Zoology

*On leave 1979–80

A program in Geology with a full-time geologist and the assistance of other faculty members has been reinstituted in the college since 1976–77. Course offerings in geomorphology are listed under physical geography.

While a major in Geology is not currently available, students can plan a "self-designed major" which accomplishes the same purpose.

COURSES

11 INTRODUCTION TO PHYSICAL GEOLOGY
The important geologic concepts needed to both understand our planet's structure and provide the foundation for advanced study in the geological sciences will be covered. Recent findings in geophysics, geochemistry, oceanography, and space science will be related to the subject matter of classical geology. Lecture, lab.
Semester 1 Mr. Lewis

12 HISTORICAL GEOLOGY
The geologic history of continents, oceans, and the evolution of life through the ages, with emphasis on the North American continent will be studied.
Semester 2 Mr. Nunnemacher

111 INTRODUCTORY MINERALOGY
The study of crystallographic, physical, and chemical properties of

common minerals will be undertaken. There will be a field trip and laboratory. Prerequisite: Geology 11.
Not offered 1979–80 Ms. Rehmer

131 STRUCTURAL GEOLOGY

Analysis of rock formation based on the principles of mechanics and the utilization of research data obtained from laboratory and field investigations will be studied. The principles of structural geology will be applied to the interpretation of major fold, fault, and fracture systems of the earth. There will be a field trip and laboratory. Prerequisite: Geology 11.
Not offered 1979–80 Ms. Rehmer

141 THE FOSSIL RECORD

This course is a systematic survey of the morphology, taxonomy, and geologic history of groups of organisms commonly found as fossils. The techniques and principles used for interpreting the fossil communities in terms of age and environment will be discussed. There will be a field trip and laboratory.
Not offered 1979–80 Mr. Nunnemacher

142 STRATIGRAPHY AND SEDIMENTATION

This is a survey of the principles and methods used to study layered rocks, their ages, fossil content, and correlation. Emphasis will be on sedimentary rocks and will include their classification and depositional processes and environments. Prerequisite: Geology 12 or permission of instructor. Field trip. Laboratory.
Not offered 1979–80 Ms. Rehmer

151 INTRODUCTORY FIELD METHODS

This is a survey course in field geology. This includes introductory methods in topographic and structural mapping, hydrogeology, and air photo interpretation. Numerous field excursions. Prerequisite: permission of instructor.
Not offered 1979–80 Ms. Rehmer, Mr. Lewis

161 SPECIAL PROJECTS

Selected research topics in geology will be undertaken. Prerequisite: permission of instructor.
Semesters 1, 2 Staff

171 ENVIRONMENTAL GEOLOGY

The application of geological specialties to environmental problems will be studied. Geologic processes, earth resources, and engineering properties of rocks and surficial deposits, as important to human activities, will be emphasized. Prerequisite: Geology 11 or Geography 14. There will be lectures and discussions.
Not offered 1979–80 Mr. Lewis

201 SEMINAR IN NEW ENGLAND GEOLOGY

The geology of the northern Appalachians, with emphasis on orogenic events, paleogeographic reconstructions, plate tectonics models for Appalachian folding, post-tectonic sedimentation, and glaciation. There will be individual projects and three local field trips. Prerequisite: Geology 11 or 12 and permission of instructor.
Not offered 1979–80 Ms. Rehmer

German

See Department of Foreign Languages and Literatures.

Government and International Relations

DEPARTMENT FACULTY

John C. Blydenburgh, Ph.D., Professor of Government; Department Chair
Morris H. Cohen, Ph.D., Professor of Government, Representative Washington Semester Program**
Cynthia H. Enloe, Ph.D., Professor of Government*
Roger E. Kasperson, Ph.D., Professor of Government and Geography
Sherman S. Hayden, Ph.D., Professor of International Relations, Emeritus
Ronald P. Formisano, Ph.D., Associate Professor of American History and Adjunct Associate Professor of Government*
Sharon P. Krefetz, Ph.D., Associate Professor of Government
Knud Rasmussen, Ph.D., Associate Professor of Government
Ann T. Schulz, Ph.D., Research Associate Professor of Government
Peter B. Natchez, Ph.D., Assistant Professor of Public Administration and Government (M.P.A. Director)
Scott Taylor, Ph.D., Research Assistant Professor of Government, Associate Director, Public Affairs Research Center
Kent C. Tracte, Ph.D., Assistant Professor of Government
Charles N. Coleman, M.A., Visiting Lecturer of Public Administration
Lois Wasserspring, M.A., Visiting Lecturer of Government
Shelton H. Davis, Ph.D., Lecturer in Government

*On leave 1979–80
**On leave Semester 1, 1979–80

UNDERGRADUATE PROGRAM

The basic premise of the program in the Department of Government and International Relations is that the knowledge that is the product of political research is not different fundamentally from the knowledge that is useful to a political actor. The implication of this point for our program is that the same curriculum that effectively trains potential political actors, be they citizen or public servant, can prepare a person for a career as a scholar.

The identity of political science as a discipline, like most of the social sciences, suffers because there is no "nonacademic" profession associated with it. If there were, the problem of setting up program criteria would be trivial. We have no illusions about remedying this deficiency with a program designed to train professional politicians or government workers. Nevertheless, we sincerely hope that some of our students will go on to careers in the municipal, state, and federal government, and, of course, the many public careers outside government—journalism, law, public interest organizations, business, and education.

The aim of the department, therefore, is to train all students, who come in contact with us, to be more competent political actors—at whatever level they choose—than they would have been had they not come in contact with us. For the Government major, we have the additional aim that he or she should be able to acquire from us knowledge that would complement a career in the practice or the study of public affairs.

The focus of politics is the future—what the state will be and what it should be. These, too, are the central problems of political science: the development of predictive theory based on a clear conception of the present, and the establishment of a critical perspective from which to evaluate and explore normative political theory. Therefore, we see three components, three types of political education, that make up an effective political science curriculum: (1) a description of the present, (2) the concepts and skills useful for constructing predictive theory, (3) the intellectual skills necessary for critically evaluating normative theory.

Descriptive Component

First, an effective political science curriculum should provide useful information about politics and government; students exposed to the curriculum should have a knowledge of political and governmental institutions, their operations, their interrelationships, and their role in political systems. The curriculum includes the provision of skills useful in measuring and analyzing information about politics and government. In short, the curriculum should provide an accurate description of the politics and government that students are likely to encounter in their lives after Clark.

Predictive Component

Information about politics and government is not sufficient for understanding. To understand means, at least in part, to have prudent expectations about the future: the effective political actor must be able to make useful predictions. Thus, we aim to provide models and theories with which students can use present information to make inferences about the future.

Normative Component

Although political argument is prompted by uncertainty, it is needed to solve ideological differences. Thus, the third component of an effective curriculum is the development of analytic skills useful for evaluating normative judgments about politics and government. The successful political actor, as citizen or professional is constantly exposed to arguments about how the state ought to be. The critical thinker—the competent analyst of normative political argument—will be among the most effective participants in an open society.

The Government Major

The structure of the major is meant to accomplish these three goals while providing for the nonmajor as a byproduct. The major consists of program requirements and a subfield specialization in which the major chooses to explore a narrower field in greater depth. In a costless world it would be difficult to choose an ideal set of subfields. Our position is that the subfields we offer should be those in which we feel competent; thus, until and unless resources change, we will regularly offer four: American politics, comparative politics, international relations, and public policy and administration. While we will not foreclose other options, a major normally is expected to choose from among these four. Exceptional students have the additional option of participating in the departmental senior thesis program in the senior year.

Program Requirements

The major is required to take a total of nine government courses, Government 103, three subfield related courses, and Economics 10. All majors are required to take a total of nine government courses, Government 103, Introduction to Political Investigation. This course aims to introduce and develop skills in analyzing normative argument, formal political theory, and the principles of empirical investigation. The course is taught with a standard structure, aims, and assignments, but not with standard substance. The substantive content of the course can vary with the instructor because the aims of the course can be achieved using readings and research from any of the conventional subfields of political science.

A current list of subfield related courses is published in the Government Department Handbook.

The relationship between politics and economics and between the respective disciplines is so fundamental that all majors are required to take Economics 10.

The remaining program course requirements are two: (1) one course in normative political theory and, (2) one course in research skills applicable to the major's subfield. The normative theory requirement can be satisfied with any of the theory courses offered in the Department of Government and International Relations, though ordinarily most students are expected to meet the requirement with 205 or 206. The research skills requirement can be met with 107 (Research Methods in Politics) or with an appropriate course from another discipline.

Subfield Specialization

The major must take one subfield introductory course, two additional government courses in that subfield, and three related courses from other disciplines. Three government courses must be selected from outside the subfield. (Lists of related courses for each subfield are available in the Department of Government and International Relations Office.) Each of these three major disciplinary subfields are, themselves, open to a variety of topical emphases, thus allowing flexibility for undergraduate course selection.

In sum, the major requirements are:

Government 103
Economics 10
one research methods course
one normative political theory course
A subfield specialization including an introductory course and two other courses
three subfield related courses
three government courses not in the subfield

STUDENT HANDBOOK

The Government Department annually publishes a handbook, which has a more extensive description of programs, courses, and faculty, as well as other information relevant to the major or interested student. Copies are available in the Academic Center, Room 302.

SENIOR THESIS PROGRAM

The Senior Thesis Program is intended to give the exceptional senior an opportunity to pursue an intensive course of study of her/his own choosing under the direction of a member of the Government Department faculty. The program culminates in a thesis completed during the last term of the senior year. The program normally consists of one credit per term beginning the first term of the senior year.

The thesis must be in completed form two weeks prior to the final semester of the program.

Any Government major with a grade point average of 3.20 or better who is interested in pursuing an intensive course of study in a particular area is eligible to participate in the Senior Thesis Program. In special cases students with a GPA of 3.0 or better can qualify with provisional status. Provisional status means that the student begins an independent study project, which is then reviewed by the department faculty after one semester when a final decision on admission is made.

Applications should be submitted to the chairman of the Government Department before the completion of the term preceding the semester in which the applicant wishes to begin a program.

A complete application consists of a one- or two-page typed proposal describing the student's project and course of study and a transcript of the applicant's academic record. Proposals are expected to be substantial, containing a fairly specific statement of hypotheses or theories to be tested, questions to be explored, and the method and research to be used in the program.

All applications are reviewed at a meeting of the faculty of the Government Department. Applicants are evaluated as to their ability to work independently, intellectual ability, the appropriateness of their acquired skills, and other factors that indicate the likelihood that the applicant can successfully complete the program. Each applicant will receive notification of the department's decision on his or her case. Review or appeal of the decision can be made through the department chairman.

HONORS IN GOVERNMENT

Outstanding senior theses may be nominated for departmental honors. Initial nomination of a thesis for consideration for honors normally will come from the first reader of the thesis (the faculty adviser). If a participant wishes her or his thesis to be considered for honors, a first draft must be completed by midterm of the last semester of the program.

When a thesis is nominated for honors, the department appoints an Honors Committee composed of three faculty members, including the first reader, to supervise the completion of the program.

A completed thesis must be submitted to the Honors Committee by April 1 (December 1 for January graduates).

At the conclusion of the program, the honors candidate will be given a comprehensive oral examination, administered by the Honors Committee, covering the thesis and its field. According to the committee's evaluation of the thesis and the comprehensive exam, the faculty will decide whether or not to award the student honors and, if honors is awarded, whether it is honors, high honors or highest honors.

PUBLIC AFFAIRS RESEARCH CENTER

The Public Affairs Research Center (PARC) is a research branch of the Government Department. PARC conducts a series of regularly scheduled sample surveys of the Massachusetts adult population. The purpose of the surveys is to assess the sentiments of Massachusetts residents about specific and timely public issues, as well as attitudes and behavior of a more general and continuing nature. The results of the surveys are released to the news media and public officials and are available to the general public upon request. PARC plans to expand these surveys to the entire New England region in the near future. In addition to sample surveys, PARC also conducts contract research in the area of policy analysis.

PARC is an important educational resource within the Clark community. Students interested in courses in public opinion, survey research, decision making, and campaigning will find such courses offered by Government Department faculty. Students interested in practical experience in a research center can take advantage of the internships and special projects available in PARC. And students interested in part-time employment as interviewers for PARC's statewide surveys will have the opportunity to combine both part-time work and an interesting educational experience.

The program is administered by Professors Blydenburgh and Taylor.

PROGRAM AND GENERAL COURSES

77 INTERNSHIP

Offered for variable credit.

Semesters 1, 2 — Staff

88 DIRECTED READINGS

Offered for variable credit.

Semesters 1, 2 — Staff

89 SPECIAL PROJECTS

Offered for variable credit.

Semesters 1, 2 — Staff

103 INTRODUCTION TO POLITICAL INVESTIGATION

This course is designed for intended majors. Students wishing to get a general survey of the discipline are urged to take another 100-level offering. What is politics? People in the world of politics—ideologies and the quest for power. Theoretical and empirical approaches to the study of politics are considered. Techniques of political analysis are applied in a variety of settings. Topics vary by section, but common assignments are used to develop research and analytical skills. Students who have completed Government 180 are not eligible to take Government 103.

Semesters 1, 2 — Staff

107 RESEARCH METHODS IN POLITICS

Students will be exposed to some of the basic tools useful for analyzing and creating data in political research. Included will be some elementary nonparametric statistics, hypothesis testing, and measurement theory.

Semester 1 — Mr. Blydenburgh

123.5 CONTEMPORARY POLITICAL ECONOMIC PROBLEMS: OPINION AND ANALYSIS

The course will examine the basis of intergroup differences in attitudes on questions of economic policy, emphasizing the function of values, perception of fact, and analytical abilities. Also listed for credit as Economics 123.5

Semester 1 — Mr. Van Tassel, Mr. Taylor

202 APPLICATIONS OF GAME THEORY TO POLITICS

After covering the basic concepts of game theory, the course will pursue applications to: a variety of classes of political conflict, strategy in international relations, political campaign decision making, and theories of the formation of political coalitions.
Semester 2 Mr. Blydenburgh

205 ROOTS OF POLITICAL THOUGHT

A study of the development of Western political thought from the Socratic philosophies to Hobbes. The study will deal with the evolution of political thought in the context of influential, social, political, and economic forces.
Semester 1 Mr. Rasmussen

206 RECENT POLITICAL THEORY

A study of modern political theory as developed in the context of the social, political, and economic forces that have shaped Western thought since the French Revolution.
Semester 2 Mr. Rasmussen

290 PUBLIC OPINION POLLING AND SURVEY RESEARCH

This course is designed to introduce students to the study of public opinion polling and survey research. Its content includes both theoretical and practical aspects of survey research methodology, each of which will be analyzed from a critical perspective.
Semester 2 Mr. Taylor

295 WRITING FOR UPPER DIVISION STUDENTS IN HISTORY AND THE SOCIAL SCIENCES

Recommended for all Government majors. Refer to course description under History 295.
Semester 1 Mr. Von Laue

297 SENIOR THESIS IN GOVERNMENT AND INTERNATIONAL RELATIONS

Offered for variable credit.
Semesters 1, 2 Staff

298 DECISION THEORY

This course covers the basic literature of decision theory emphasizing game theory and models of nonmarket decision making. Descriptive and prescriptive theories, covering individual and group decision making, will be considered.
Not offered 1979–80 Mr. Blydenburgh

370 POLITICAL SCIENCE RESEARCH: TECHNIQUES AND METHODS

The major concern of this seminar will be in gaining an understanding of those social science techniques and methods most appropriate to conducting political science research. The course will begin with consideration of how one develops a research design, generates hypotheses, and builds theories. General topics to be discussed include causal thinking, the notion of controls, and the concepts of validity and reliability. Specific topics will include survey research, aggregate analysis, content analysis, simulation, correlation and regression analysis, and factor analysis. In addition, special attention will be given to problems involved with doing cross-cultural

research and analyses through time. Open to graduate students and to advanced undergraduates, with the permission of instructor.
Semester 2 Staff

AMERICAN POLITICS

150 INTRODUCTION TO AMERICAN GOVERNMENT

This is an introductory study of the processes and efficacy of the American governmental system. Primarily devoted to an overview of contemporary aspects of the national government, the course includes problems of federalism, salient civil liberties issues, and the roles of Congress, the President, the Supreme Court, and political parties in the decision making process.
Semester 2 Mr. Cohen

172 SUBURBIA: PEOPLE AND POLITICS

The growth of suburbs in the United States since the end of World War II has had considerable impact upon the nature of our metropolitan areas. Why has this growth occurred? What are the characteristics of the people who live in suburbs? Is suburban homogeneity a myth or reality? How are suburbs governed? What is political participation like? What sorts of issues are important to suburbanites? Is there a national suburban policy? Should there be one? These are the major questions to be explored in this course. This course is open to sophomores, juniors, and seniors.
Semester 1 Ms. Krefetz

175 WOMEN AND POLITICS

This is an exploration of the political behavior of American women and of the factors which condition their behavior, including: socialization and learning of sex roles, social background and life situation variables, and historical arrangements of political institutions. Among the questions to be considered are: Why are women generally less interested, less active, and less efficacious politically than men are? What are the characteristics of those women who do engage in political activity? What is the likely impact of the women's liberation movement and women's issues on the future behavior of women in politics? Prerequisite: one previous government course.
Semester 2 Ms. Krefetz

204 SEMINAR IN AMERICAN PRESIDENCY

This is a study of the constitutional and other powers and functions of the president and the presidency via selected readings and individual research.
Not offered 1979–80 Mr. Cohen

209 THE U.S. SINCE 1945

Refer to course description under History 209.
Semester 2 Mr. Little

214 SEMINAR: BUSINESS AND POLITICS

This course will examine the social responsibility of business to a community from a theoretical and a practical point of view. The theoretical aspects will be explored through a series of assignments of major writers in this area. The practical aspects will be dealt with through the use of community resources in, for example, the legal, educational, and political sectors. This course will take the place of the tutorial program; it will,

therefore, offer the latitude of individualized reports in specific areas of interest. Enrollment is limited to 20 students.
Not offered 1979–80 Mr. Rasmussen

220 URBAN GOVERNMENT AND POLITICS

The primary focus of this course is on the various socioeconomic and political forces that affect American urban political systems. What are the resources and constraints on decision makers? Topics to be discussed include: the social, economic and political nature of the city, the effects of the state and federal governments, relations between city and suburb, political structures and styles, the distribution of power and race, ethnicity and ethos theory. Later in the course, some attention will be given to differences in urban policy outputs, primarily in the fields of education and welfare. Where relevant, differences and similarities in the politics of urban areas outside the United States will be considered. Open to sophomores, juniors, and seniors.
Semester 2 Ms. Krefetz

221 SEMINAR: PUBLIC POLICIES AND AMERICAN CITIES

What difference does it make "who governs?" What sorts of variations are there among cities in their policy outputs in such areas as welfare, education, poverty, health, the police, and the criminal courts; and what accounts for the differences? After a critical review of the existing literature, research will be conducted on a policy area of the student's choosing in Worcester and/or other cities. Prerequisite: Government 220.
Not offered 1979–80 Ms. Krefetz

223 SUBURBAN POLICY ISSUES

This seminar will pick up where the introductory suburban politics course leaves off and explore politics and policy making on several major issues in suburban communities, e.g., zoning and land use, education, and property taxes. Students will conduct original research on these issues in Worcester and Boston suburbs. Prerequisite: Government 221 or permission of instructor. The course is limited to 15 students.
Not offered 1979–80 Ms. Krefetz

224 BLACK POLITICS IN THE UNITED STATES

This course will analyze the distribution of power as it affects the Black community. Among those topics to be explored will be: Black congressmen and lobbies, Black politics in cities, the impact of Blacks on the bureaucracy, and a comparison of Northern and Southern Black politics.
Not offered 1979–80 Ms. Enloe

225 POLITICS OF BUREAUCRACIES

Bureaucrats are among the most neglected—and influential—actors in contemporary politics. This course will examine the dynamics of bureaucratic politics in the U.S., with a special concern for federal level departments. Some of the questions to be pursued are: How much control does the White House exercise over federal agencies? Has "Watergate" had a lasting impact on bureaucratic operations? Why are some departments, such as treasury and defense, so much more influential in bureaucratic competition than others? How do bureaucrats cultivate their clienteles? This course is open to majors and nonmajors. Some previous courses in government will be helpful.
Not offered 1979–80 Ms. Enloe

231 SEMINAR IN POLITICS AND ENVIRONMENT

Refer to course description under Geography 231
Semester 1 Mr. Kasperson

251 AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS

This is a study of the structure and functioning of the American party system and the role of selected interest groups in American politics, including some ethnic and economic influences. Special emphasis is placed on the processes and problems involved in the nomination and election of the president. Prerequisite: American Government desirable, but not required.
Not offered 1979–80 Mr. Cohen

253 AMERICAN CONSTITUTIONAL LAW—NON-CIVIL LIBERTIES ASPECTS

This is a study of the major non-civil liberties developments and problems of American constitutional law and judicial behavior approached primarily by analysis of court cases. Both topical and, in some areas, developmental analyses are utilized. Major areas covered are: the constitutional powers of the three branches of the government, federalism, the development of the commerce and taxing powers, contract clauses, and the development of due process. Emphasis on class discussion. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Cohen

254 AMERICAN CONSTITUTIONAL LAW AND CIVIL LIBERTIES

This is a study of some of the major developments and problems of American constitutional law and judicial behavior in the area of civil liberties approached primarily by the case method. Topics usually explored include such issues as freedom of speech, press and religion, and civil rights. Opportunities are afforded for a study of selected aspects of the rights of a person accused of a crime. Emphasis is placed on recent and contemporary developments and on class discussion. Prerequisite: permission of instructor.
Semester 2 Mr. Cohen

255 SEMINAR IN THE LEGISLATIVE PROCESS

This is a study of policy making in Congress, involving problems of legislative organization and procedure, leadership, and presidential-legislative relationships; examined primarily by the case method and by individual research on particular pieces of recent legislation. Prerequisite: permission of instructor. The course is limited to 10 students.
Not offered 1979–80 Mr. Cohen

275 CITIZEN PARTICIPATION

Refer to course description under Geography 275. Also listed for credit as Environmental Affairs 275 and Science, Technology and Society 275.
Semester 2 Mr. Ducsik, Mr. Kasperson

294 ELECTORAL BEHAVIOR

Contemporary studies of voting behavior will be used to explore the meaning of elections as the linkage between government and citizenry. The course will address the questions of who votes and why, and it will aim to identify and explain long-term trends in elections by focusing on the theory, methods, and data of recent political research.
Not offered 1979–80 Mr. Blydenburgh

COMPARATIVE POLITICS

106 INTRODUCTION TO COMPARATIVE POLITICS

The course approaches the pitfalls and rewards of comparative analysis from three directions. First, we will concentrate on a single foreign political system in all its complexity (e.g., Britain, Mexico, Japan, etc.) Second, we will look at one political issue (e.g., pollution, crime, land reform) to see how several different countries cope with demands. Finally, we will examine one concept used by political scientists to compare political systems (e.g., recruitment, ideology, etc.). This course is open to majors and nonmajors.
Semester 1 Ms. Wasserspring

108 COMPARATIVE POLITICS OF WOMEN

This course will examine the roles, influence, and participation of women in several different political systems. Changes—and lack of genuine changes in women's political status—will be compared within the context of the entire political system (ideologies, bureaucratic organizations, party systems, class and ethnic cleavages,etc.). At least one previous course in Government or Women's Studies is strongly advised.
Not offered 1979–80 Ms. Enloe

167 REVOLUTION AND POLITICAL VIOLENCE

The roots of political violence and revolution—social change, political legitimacy, and individual psychology—are examined. Specific revolutions are studied through the writing of participants, popular writers, and political analysts. External intervention in domestic rebellions is studied.
Semester 1 Ms. Wasserspring

182 COMPARATIVE EUROPEAN POLITICAL SYSTEMS

A comparative study of the major west European political systems. Study of the political historic development will lay the basis for comparison of modern functions of government. Stress is placed on political socialization and its importance for comparative politics.
Semester 1 Mr. Rasmussen

217 POLITICAL ANTHROPOLOGY OF DEVELOPMENT

This course will provide a broad overview of the social and environmental consequences of state policies and corporate activities in selected areas of Latin America and the United States. Three cases will be analyzed in depth: (a) the opening up of the Amazon basin in South America, (b) coal developments in the American West, and (c) the nuclear power controversy in New England. The course will be conducted as a seminar.
Semester 1 Mr. Davis

222 POLITICAL ANTHROPOLOGY OF INDUSTRIAL SOCIETY

This course will provide an anthropological perspective on recent political and economic changes in the United States. The course will begin with a discussion of the community-study tradition in anthropology looking at such questions as the rise of industrialism and the growth of agribusiness in rural America. Following this, we shall consider the consequences of energy development for American society. In the final section, we shall look at recent social changes in New England as they bear on issues raised in the earlier part of the course.
Semester 2 Mr. Davis

226 POLITICS OF THE MIDDLE EAST

Political change within Middle Eastern countries from North Africa to Afghanistan will be studied. Attention will be given to social structure, styles of political competition, leaders and ideologies, and the relationship between political and economic life.

Not offered 1979–80 Staff

228 SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: ETHNIC CONFLICT

This seminar will explore the meaning of "ethnicity" for groups as different as South African Afrikaners, Iraqi Kurds, and French Canadians in the context of political development and political conflict. Some previous study of comparative politics, history, or sociology will be very useful.

Not offered 1979–80 Ms. Enloe

235 COMPARATIVE BUREAUCRATIC POLITICS

In both industrialized and developing nations, bureaucratic departments have been critical to policy making and implementation. This course will use cases from Europe, Africa, and Asia to test generalizations about bureaucrats' impact on their political systems.

Not offered 1979–80 Ms. Enloe

236 POLITICS OF SOUTHEAST ASIA

This course analyzes the changes, or blockage of changes, that have occurred in the area since 1945. Social, economic, cultural, and foreign factors shaping politics are examined. All countries will be discussed but focus will be on Malaysia, Indonesia, the Phillippines, and Vietnam.

Not offered 1979–80 Ms. Enloe

237 POLITICS OF SCANDINAVIA

This course will analyze twentieth-century political thinking with specific reference to Scandinavian thought and political systems. The examination will be of major trends as they constitute either unique Scandinavian developments or reflect a broader European pattern of thinking.

Not offered 1979–80 Mr. Rasmussen

251 COMPARATIVE REVOLUTIONS

Refer to course description under History 251.

Semester 2 Mr. Lucas

265 POLITICS OF JAPAN

Japan is considered one of the world's four great powers. Yet its internal political dynamics are not widely understood by Americans. This course will explore the major factors that have shaped Japanese politics and government policies since 1945. Among the topics that will be analyzed are: the group loyalties of Japanese, the factional rivalries within major parties, the influence of bureaucrats, the ambivalence that plagues Japan's foreign relations. The course is open to majors and nonmajors. Those interested in pre-1945 Japan are urged to take the course offered in History. Some previous courses either in Government or in Asian Studies are helpful.

Not offered 1979–80 Ms. Enloe

266 ETHNOLOGY AND POLITICS OF THE CARIBBEAN

Refer to course description under Sociology 220a.

Semester 1 Mr. Rasmussen, Mr. Gerber

INTERNATIONAL RELATIONS

169 INTRODUCTION TO INTERNATIONAL RELATIONS

This course is designed to equip the student with the analytic and conceptual tools to make sense out of the many complexities of international politics. We begin from the prevailing state-centric view of the discipline organized around the concepts of nation-state, sovereignty, power, perception, system, deterrence, verbal strategy, and reciprocity. Next, we explore challenges to this approach including liberal neoclassical political economy, transnationalism, structuralism and the Marxist theory of imperialism. These afford us the opportunity to explore transnational corporations, the united nation system, international monetary, trade, and financial structures and institutions, and class conflict. We conclude with a consideration of the concept of global community.

Semester 1 Mr. Tracte

211 EUROPEAN INTEGRATION

This course will examine the social and political development in west European politics, the historical roots of European integration, the founding of the EEC, and an analysis of some contemporary policy problems in west Europe.

Not offered 1979–80 Staff

212 POLITICS OF ADVANCED INDUSTRIAL SOCIETIES

This is an examination of the political, social, and economic structures of western Europe, Japan, and the United States, with particular focus on some of the major issues in social welfare and industrial policies confronting advanced industrial societies.

Not offered 1979–80 Staff

239 U.S. FOREIGN POLICY

This course takes an analytic and historical approach to U.S. foreign policy. First, we identify and distinguish several alternative paradigms for understanding foreign policy. Contrary to the dominant media image, we find that facts are contingent upon one's perspective. What you see depends upon which glasses—orthodox, economic revisionist, ideological revisionist, neorevisionist—you wear. Second, we survey chronologically the strategic, economic, and systemic aspects of U.S. foreign policy since WW II.

Semester 1 Mr. Tracte

245 INTERNATIONAL ORGANIZATIONS AND DEVELOPMENT

This course will examine the role international organizations play in the political economy of international development. Do these organizations serve the needs and interests of the less developed countries, or are they instruments for facilitating the further accumulation of international capital? How much influence do these organizations exercise over development planning in Third World countries? Organizations to be examined include intergovernmental organizations such as the IMF, World Bank, Inter-American Development Bank and UNCTAD as well as nongovernmental organizations such as transnational corporations.

Semester 2 Mr. Tracte

249 INTERNATIONAL POLITICAL ECONOMY

This course examines how international economic relationships involving trade, capital transfers, and population (labor) movements affect domestic political and economic development. Topics to be discussed include imperialism, dependency, interdependence, and integration. The focus is not limited to less developed countries. Equal weight is given to the examination of industrialized nations.

Semester 2 Mr. Tracte

PUBLIC POLICY AND ADMINISTRATION

109 INTRODUCTION TO PUBLIC POLICY AND ADMINISTRATION

This course focuses on the administrative dimension of the public policy making and policy implementation process. The course describes the environmental setting of American public administration, describes selected problems and perspectives in public administration, explicates the historical and philosophical context of administrative action, reviews the procedural and institutional networks in the administrative process, and presents selected frameworks utilized for organizing the technical dimension of the policy process. Prerequisite: Government 150 or permission of instructor.

Semester 1 Mr. Coleman

213 POLICY ANALYSIS

Policy analysis is a means of critically examining public programs to provide decision makers with information on which to make policy decisions. Policy analysts use a variety of techniques, such as evaluation research, program budgeting, and survey research. In times of financial and political crises, when governments must make critical choices, the work of the policy analyst is crucial. This course will examine (1) the purpose and context of policy analysis, (2) the various methods that are used in doing it, and (3) the implementation requirements and constraints involved in applied policy research. Both theoretical and applied case materials will be used in this course.

Semester 2 Mr. Natchez

233 GEOGRAPHY OF PUBLIC SERVICES

Refer to course description under Geography 233.

Semester 1 Staff

269 PUBLIC POLICY AND MACHIAVELLI REVISITED

An in-depth analysis of Machiavelli's political theory and approach to policy making. The course will differentiate between normative theory and objective analysis. In the process, themes developed by Machiavelli will be applied to current policy formation and models for public policy analysis.

Semester 2 Mr. Rasmussen

282 SEMINAR ON HOUSING, ZONING, AND LAND USE POLICIES

A critical examination of federal housing policies and state and local zoning and land use regulations. The major political, economic, and cultural factors that shape the supply, quality, and location of housing and various income, age, and racial groupings in metropolitan areas will be

explored, with special attention to public housing and exclusionary zoning issues.
Semester 2 Ms. Krefetz

315 PUBLIC CHOICE THEORY
Reviews some important recent political theories, which make use of economic concepts in attempting to explain political phenomena. Emphasis is placed on evaluating the theory in terms of its success in accounting for established empirical propositions as well as its prescriptive uses and normative implications. Some of the subjects covered will be theories of representative government, a theory of the organization and formation of groups, theories of voting systems, and a theory of bureaucratic behavior.
Semester 2 Mr. Blydenburgh

Hebrew

See Department of Foreign Languages and Literatures.

History

DEPARTMENT FACULTY

Daniel R. Borg, Ph.D., Associate Professor of European History, Department Chairman
George A. Billias, Ph.D., Professor of American History
Tamara K. Hareven, Ph.D., Professor of American History*
Ronald P. Formisano, Ph.D., Professor of American History*
Dwight E. Lee, Ph.D., Professor of European History, Emeritus
Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of European History
Richard B. Ford, Ph.D., Associate Professor of African and Comparative History, Codirector, International Development
Paul Lucas, Ph.D., Associate Professor of European History
Douglas J. Little, Ph.D., Assistant Professor of American History
Richard S. Alcorn, A.B.D., Assistant Professor of American History
Christopher N. Cocoltchos, Ph.D., Assistant Professor of American History
David H. Anthony III, A.B.D., Instructor of African History and Development
William Koelsch, Ph.D., Associate Professor of Geography, University Archivist, Adjunct in History
Thomas C. Barrow, Ph.D., Affiliate in History
Marcus A. McCorison, M.S., Director of the American Antiquarian Society, Affiliate in History

*On leave 1979–80

UNDERGRADUATE PROGRAM

Students choose a history major for different reasons. Those preparing for careers in government, law, and sometimes business choose the major for the opportunity it offers in gaining insight into the diversity of human affairs. They desire a humanistic study geared toward a practical end. Others view the history major as the broadest and most flexible one in which to study their particular interests from a number of perspectives. Some are committed historians before they arrive at Clark. Their counterparts are those who become history majors by a process of elimination. For history majors and nonmajors alike, history provides an insight into their own individual and collective pasts and, therefore, into their own identities. History courses also introduce them to the non-Western world by giving them some understanding of the historical evolution of other peoples and cultures.

UNDERGRADUATE MAJOR

(Consult the handbook for undergraduates, *Studying History at Clark,* for an elaboration of the major and its options. The handbook is available in the History Office.)

The department is presently implementing new major requirements. If you entered Clark as a freshman before 1978 or as a transfer student in 1978 or before, the *old major requirements* still apply to you:

a) You take *nine* history courses and *three* related courses in Economics, Geography, Government, Psychology, and Sociology.

b) Of the nine history courses,
   1) *two* must be 200-level courses in American history, and
   2) *two* must be 200-level courses in non-American history.

If you entered Clark as a freshman in 1978 or after, you must meet the *new major requirements:*

a) You take *nine* history courses and *four* related courses in either the humanities or the social sciences. If you wish to focus on Science, Technology and Society (STS) and/or Environmental Affairs (EA), you take as related courses *three* in the social sciences and *three* in STS and/or EA.

b) Of the nine history courses,
   1) *one* must be an introductory course (either History 110, 120, 170, 171, or 190) preferably taken in your freshman year;
   2) *two* must be 200–level courses in American history;
   3) *two* must be 200-level courses in non-American history; and
   4) *one* must be a "capstone" course, usually taken in the senior year.

c) Your capstone course is determined by whichever of three tracks you choose to follow in your major:
   1) For Track I: History 289, THE CONTEMPORARY AGE IN GLOBAL PERSPECTIVE
   2) For Track II, one of the following:
      History 204, COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815
      History 210, COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY SINCE 1815
      History 296, PRACTICUM IN THE TEACHING OF HISTORY
      History 197, RESEARCH PROJECTS (in your concentration)
      History 298, DIRECTED READINGS (in your concentration)
   3) For Track III: History 293, HONORS THESIS RESEARCH

The Three Tracks

In the new major, the department requires you to follow one of three tracks that indicate different levels of involvement in historical studies. Track I is designed for those who have a general focus in either the humanities or the social sciences. If you have a more specific interest, the department suggests that you follow Track II where you can "concentrate." Finally, if you wish to write a research thesis and take a comprehensive examination in your "concentration," you should follow Track III, the honors track. Your transcript will reflect which track you have followed.

Track I: For General Majors

Follow the general requirements, taking History 289, as the capstone.

Track II: For Majors Who Wish to Concentrate Courses Around Some Topic

As in Track I, you choose your history courses and related courses in one of the divisions (humanities or social sciences) according to your interests. Track II presupposes, however, that you have refined your interest to the point of concentrating specifically in some historical theme. You might wish, for example, to concentrate in American or Jewish thought and culture, or in European studies and choose some theme within one of these, by which you select history and related courses. The handbook for undergraduates *Studying History at Clark* contains examples of course choices for themes within each of these three concentrations. The history staff also has worked out hypothetical sequences of courses around some theme in each of twenty-five concentrations. These examples are available in the History Office, in the library at the reserve desk, and in the office of each history adviser. Of course, you define your own theme in whatever concentration you choose. The capstone course you choose should serve to develop your concentration.

Track III: For Honors Majors in Concentrations

As in Track I, you choose the divisional emphasis (humanities or social sciences) and, as in Track II, a concentration. You write a research thesis on some topic in your concentration (two course credits) and take a comprehensive examination on the theme of your concentration (after a reading course of one credit), both in your senior year. Honors students also take History 292, the honors proseminar, in their sophomore or junior years. The honors track is valuable not only for would-be professional historians, but also for those who intend to pursue any career that requires analysis of complex issues and good writing. (A brochure on the honors program is available in the History Office.)

The new major is not formally a structured major; no single course nor sequence of courses is required. The formal requirements, the tracks, and the examples of concentrations available for your inspection are meant to help you plan a coherent major according to your interests. In these examples, the department has tried to accommodate interests of majors as varied as social history, Russian studies, Black history, American political history, and German thought and culture.

Lack of a more precise formal structure in the major does not imply that you should ignore giving structure to your major. You should consult your adviser at registration each semester to help plan your course of study at Clark.

GRADUATE PROGRAM

The areas of graduate study at Clark are American history and modern European history, with select non-Western history as supporting fields. Emphasis is placed on American history because of the department's affiliation with the American Antiquarian Society, which provides graduate students with the facilities of one of the country's finest research libraries, with over 750,000 volumes and many valuable manuscripts relating to early American history prior to 1876. A dozen smaller libraries in Worcester, with combined holdings of over a million volumes, further extend the resources of the Clark library, as does easy access to Boston, Providence, and New Haven area research facilities.

The department offers graduate work in the form of reading seminars (colloquia), research seminars, and individual tutorials for both reading and research purposes. First and second year students take three courses each semester; one of these courses must be expressly devoted to research for the purpose of producing a substantial research paper. Beyond their research seminar, students fill out their program by taking colloquia, additional research seminars, and upper-division undergraduate courses. The chairman assigns incoming graduate students to faculty advisers, who help design student programs. With the permission of the adviser, a student is encouraged to take suitable courses in other departments or Consortium colleges.

MASTER OF ARTS

The department enrolls a limited number of terminal master's candidates and awards the degree to students who have completed the work of eight courses and one-year residence requirement; have (1) either submitted two substantial research papers prepared in two seminars, which are jointly equivalent to the master's thesis, or (2) submitted a master's thesis; and have passed the required oral examination.

Ph.D. candidates, who have passed their preliminary examination, (whether or not they will continue with a dissertation) may also receive the degree of master of arts.

DOCTOR OF PHILOSOPHY

The traditional doctoral program is designed to enable students to master the discipline of History through research, reading, and teaching. In addition to meeting the seminar and course requirements outlined above, a student who enters without an M.A. degree must spend at least three years in full-time residence at Clark, satisfy the language requirement, gain some experience in college teaching, pass the preliminary examination, and write a doctoral dissertation within seven years of matriculation.

Language Requirement: Students concentrating in American and British history must pass an examination in one foreign language: French, German, Spanish, or Russian. Students concentrating in American history may substitute a program in quantitative techniques or computer science for a foreign language. Those specializing in European history must pass examinations in two foreign languages, normally French and German. The chairman will designate an examiner in each language, who will determine if the student is proficient enough to use the language as a research tool. An entering student must take a language examination as soon as it is offered in the first semester of residence and must have passed this examination by the end of the first calendar year of residence in order to register for the second year. If required, the second language examination should be attempted early in the second year and must be completed before the student registers for the third year. All language requirements must be satisfied before the preliminary oral examination can be scheduled.

Teaching Experience: Some teaching experience at the college level is a prerequisite for the Ph.D. degree. Students normally meet this requirement in their second or third years as teaching assistants.

Fields: Soon after arriving at Clark, each student, in cooperation with his/her adviser, defines four fields and prepares for them in whatever ways seem appropriate in view of her/his background and interests. Students specializing in American history normally offer the full scope of American history as two fields. Those concentrating in non-American history normally offer one American field. (The dividing line between the two American fields generally falls at 1815.) Any student may offer a nonhistorical subject as a field, usually within the social sciences, or prepare an interdisciplinary field.

Preliminary Examination: One of the four fields must be offered for oral examination at the end of the student's first year. Prior to taking the oral, the student must submit two research papers completed in the first year. The remaining three fields will be examined, again orally, at the beginning of the student's third year. The combined oral examinations constitute the "preliminary examination" required by the Graduate Board. Students who have passed their preliminary examinations may, upon request, receive the degree of master of arts.

Dissertation: Students are advised to consider and explore dissertation topics during their years of residence and to choose a possible dissertation adviser as soon as possible. The process of writing a dissertation is outlined in a brochure, "Dissertation S.O.P.," which may be obtained from the department secretary.

Deadline for Completion: All work required for the doctor's degree must be completed within a seven-year period after matriculation. In unusual circumstances only, such as involuntary military service or extended illness, the department may grant a specified extension of time.

DEPARTMENT COURSES

NOTE: Undergraduate courses are of two types: (1) courses designed for freshmen and sophomores and numbered 100–199, and (2) advanced courses numbered 200–299. The latter carry no prerequisite (unless specifically noted) and are open to freshmen and sophomores as well as upper-class students without permission of the instructor. In case of doubt, these students should consult their instructor. The term *proseminar* indicates courses of limited enrollment that combine reading, discussion, and written reports. The term *seminar* indicates a research course.

U.S. HISTORY

110 INTRODUCTION TO HISTORY AND AMERICAN STUDIES

This is an introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. Also offered for credit under English 110.

Semester 1 Mr. Ford

116 RACE AND ETHNICITY IN AMERICAN HISTORY

This course explores the changing racio-ethnic cultural configuration and social stratification through U.S. history. Beliefs and ideas reflecting racial and ethnic patterns will be examined to comprehend the intellectual tradition that imparted meaning to this changing social reality.

Semester 1 Mr. Billias

120 AMERICA AND THE WORLD

This course assumes: 1) that the United States will be a major world power in the year 2000 and 2) that we should, therefore, understand America's development within the context of world history. Hence, in chronological

terms, the course stresses the period since the turn of the twentieth century, when America first emerged as a world power. Among the course's themes: the expansion of Europe into an Atlantic civilization, the Atlantic revolution; America's industrial development and the rise of an American continental empire, America and the two world wars, America and the rise of the Third World, the rise of the multinational corporations, the Cold War, and imperial America as a global power in the 1960s and 1970s.
Semester 2 Mr. Billias, Mr. Little

200 AMERICA'S FORMATIVE YEARS

The basic institutions of American civilization and the prevailing attitudes of the present were shaped in large measure during the colonial era. This course will deal with the foundations of such institutions as the family, church, and local community in America as well as the development of representative political institutions. There also will be an examination of American attitudes toward race, religion, class distinctions, cultural ethnocentrism, and imperial relations with the mother country during the same period. The aim of the course will be to analyze the reasons for two major tendencies that seemed to develop in the American colonies: the erosion of traditional European attitudes toward authority and the emergence of a psychology of accommodation resulting from the pressures arising from the increasingly pluralistic character of the population.
Not offered 1979–80 Mr. Billias

201 ERA OF THE AMERICAN REVOLUTION

This course is an analysis of American society in the pre-revolutionary period with particular emphasis upon the ideological and political developments that led to the War of Independence.
Not offered 1979–80 Mr. Billias

202 FORMATION OF THE NEW NATION

This is an analysis of the American revolutionary experience, political theories in the making of the federal Constitution, problems of the new government, and developments in the American political tradition through the Jeffersonian era.
Semester 2 Mr. Billias

204 COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (See course description under History 304.)
Semester 1 Mr. Billias

206 NINETEENTH CENTURY U.S. POLITICAL HISTORY

This is an introduction dealing with the emergence of basic institutions, conflicts, and processes that became characteristic of modern American politics.
Semester 1 Mr. Alcorn

208 THE U.S., 1900–1945

This is a survey of the U.S. from the progressive era through W.W.II. The course emphasizes the emergence of modern American culture, the rise of an imperial presidency, and the growth of government intervention in the economy from T.R. to F.D.R. Topics include the decline of socialism, the

impact of war on American society, and the persistence of racial and ethnic conflict.
Semester 1 Mr. Little

209 THE U.S. SINCE 1945

This is a survey of the U.S. from Hiroshima through Watergate. The course focuses on the growth of an affluent society, the emergence of an imperial foreign policy, and the rise of the military-industrial complex. Major topics include anticommunism at home and abroad, the impact of the mass media on postwar American culture, the continuing quest for minority rights, and the endless war in Indochina.
Semester 2 Mr. Little

210 COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY SINCE 1815

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (Refer to course description under History 310.)
Semester 2 Mr. Alcorn

211 HISTORICAL METHODS

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (Refer to course description under History 311.)
Semester 1 Mr. Alcorn

212 URBAN HISTORY

The course explores the urbanization of America from the seventeenth century to the present. Topics included are: industrialization and urban growth; ethnic, racial, and class interactions and conflicts; changes in family structure; urban politics; social change and control; and modes of conceptualizing the city.
Semester 1 Mr. Cocoltchos

213 COMMUNITIES IN AMERICA

The course examines ways in which Americans have tried to create and maintain a sense of community, focusing on conflicts within a developing capitalist nation between desires for growth and for order. The course traces changes in a sense of community from their historical roots and analyzes the implications of these changes.
Not offered 1979–80 Mr. Cocoltchos

214 U.S. SOCIAL HISTORY, 1600–1860

A study of American society and culture, emphasizing social structure, the family, religion, Afro-American and other racial or ethnic groups, women, urbanization, industrialization, immigration, nativism, and social reform movements.
Semester 1 Mr. Cocoltchos

215 U.S. SOCIAL HISTORY, 1860–PRESENT

A study of American society and culture emphasizing social structure, the family, religion, Afro-American and other racial or ethnic groups, women, urbanization, industrialization, immigration, nativism, and social reform movements.
Semester 2 Mr. Cocoltchos

216 NINETEENTH CENTURY U.S. DEMOGRAPHIC-ECONOMIC HISTORY

The examination and analysis of the components and processes involved in the demographic-economic transformation of the United States from a rural coastal nation into a modern urban industrial state.

Semester 2 Mr. Alcorn

218 RESEARCHERS' SEMINAR: AMERICAN HISTORY

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (Refer to course description under History 318.)

Semester 1 Mr. Alcorn

219 HISTORY OF AMERICAN WOMEN

This is a comprehensive social history of American women from colonial times to the present. The roles and status of women in economy, family, and political life as well as psycho/cultural definitions of women are examined.

Not offered 1979–80 Staff

220 PROSEMINAR: THE GREAT DEPRESSION

This course focuses on causes of the Great Depression, its impact upon the American people, and ways in which the country responded to the crisis. A survey of the successes and shortcomings of the New Deal provides an understanding of the emerging liberal, capitalist, welfare state.

Semester 2 Mr. Cocoltchos

221 TOPICS IN AFRICAN/AMERICAN HISTORY

This course will be an upper division seminar in topics in the Black diaspora. Themes will vary from year to year and will include the impact of art and music on Black American culture, twentieth-century urban migrations, the Black political experience in the twentieth century, and the revolution in Black America's identity in the post-World War II era.

Semester 1 Mr. Anthony

225 PROSEMINAR: VICTORIAN BOSTON

Intellectual currents, cultural movies, the arts, and institution building in nineteenth-century Boston are examined as a case study in the "culture" (high, middle, and low) of a Victorian city.

Not offered 1979–80 Mr. Koelsch

226 BUSING IN BOSTON, 1974–76: A HISTORICAL INQUIRY

This is a double-credit seminar, interdisciplinary, interinstitutional. It explores the history of: (1) the legal framework, (2) ethnic groups, (3) Blacks, (4) politics since 1960, (5) desegregation in other cities, and (6) residential segregation. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Formisano

228 RIGHT-WING MOVEMENTS, 1790–1970

This course examines Wallace, McCarthyism, American fascism, social justice, Red Scare, A.P.A., know nothing, antimasons, anti-illuminati, and other movements. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Formisano

230 SEMINAR: RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN REPUBLIC

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (See course description under History 330.)

Semester 2 Mr. Billias

231 SEMINAR: AMERICAN POLITICAL HISTORY

This is an undergraduate-graduate course; undergraduates may enter with permission of instructor. (See course description under History 331.)

Not offered 1979–80 Mr. Formisano

232 SEMINAR: NINETEENTH-CENTURY PARTIES AND SOCIAL MOVEMENTS

This is an undergraduate-graduate seminar; students may enter without the permission of instructor. (See course description under History 332.)

Not offered 1979–80 Mr. Formisano

234 AMERICAN CONSTITUTIONAL HISTORY

The course examines the origins and development of the American constitutional system with special reference to the role of the Supreme Court.

Not offered 1979–80 Mr. Campbell

235 AMERICAN CONSTITUTIONAL LAW AND CIVIL LIBERTIES

Refer to course description under Government 254.

Semester 2 Mr. Cohen

237 U.S. FOREIGN RELATIONS TO 1900

This course studies the creation of an American continental empire from the Revolution to the Spanish-American War. The course emphasizes the role of the main policy makers (Franklin through McKinley) in shaping American territorial and commercial expansion. Major themes include diplomacy and the making of the U.S. Constitution, the influence of sectional conflict on antebellum foreign policy, and the economic aspects of American expansion after the Civil War.

Not offered 1979–80 Mr. Little

238 U.S. FOREIGN RELATIONS SINCE 1900

Students will examine the emergence of the U.S. as a major world power in the twentieth century. The course focuses on the domestic sources of foreign policy and the assumptions of the major policy makers (Wilson through Kissinger). Important themes include the American response to a revolutionary world since 1910, the increasingly dominant role of the president in the making of U.S. foreign policy, and the changing position of the U.S. in the international economy.

Semester 1 Mr. Little

240 AMERICAN CULTURE AND SOCIETY 1820–1860

Refer to course description under English 240.

Semester 1 Mr. Conron

241 AMERICAN THOUGHT AND CULTURE SINCE 1860

Refer to course description under English 241.

Semester 2 Mr. Conron, Staff

242 ENVIRONMENT AND CULTURE IN THE AMERICAN PAST

Scientific and popular reflections on the American habitat from Colonial times to the present, with emphasis on nineteenth- and early twentieth-century origins of contemporary environmental knowledge and values. Also listed for credit as Geography 285.

Semester 1 Mr. Koelsch

243 AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES

This is an undergraduate-graduate seminar; undergraduates may apply through Mr. Conron (English Department) or Mr. Billias. (Refer to course description under History 343.)

Semester 1 A.A.S. Staff

246 SEMINAR: HISTORY OF AMERICAN HIGHER EDUCATION

The course considers the role of higher education in American life, with emphasis on the rise, character, and impact of the American university. There will be reading and discussion of selected secondary works, followed by intensive research in primary materials on a topic of the student's choice. (Also listed for credit as Education 241.)

Semester 1 Mr. Koelsch

285 PROSEMINAR: THE MULTINATIONAL CORPORATION

This course considers the growth and development of the multinational corporation from the late nineteenth century through the 1970s. The course examines why multinationals expand abroad, how they affect the host country, and in what manner they influence U.S. foreign policy. Emphasis on case studies from the oil, mineral, and utilities industries. Prerequisite: permission of instructor.

Semester 1 Mr. Little

EUROPEAN HISTORY

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics 121.

Semester 1 Mr. Moore

122 INTRODUCTION TO ROMAN CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics 122.

Semester 2 Mr. Moore

150 NARRATIVE IN ANCIENT HISTORICAL WRITING

Refer to course description under Classics 150.

Semester 2 Mr. Moore

170 WESTERN CIVILIZATION FROM THE "FALL" OF ROME THROUGH THE RENAISSANCE AND REFORMATION

The principal goal of the course is to familiarize students, from all departments and disciplines of study, with the basic outlines of the developments of Western society and, therefore, the character of our collective identity. For the would-be history major, a secondary goal is the presentation of the varieties of historical "angles"—cultural, political and

military, economic and social, etc.—and the integration of these analytical approaches into a coherent, popular narrative. The medieval period is emphasized because our modern history is rooted in it. Students are advised to take both History 170 and 171 since they are parts of a whole, but either course may be taken without the other.
Semester 1 Mr. Lucas

171 WESTERN CIVILIZATION FROM THE SEVENTEENTH CENTURY TO THE PRESENT

The goal of the course is the same as History 171. The course will begin with the Scientific Revolution of the seventeenth century and the Enlightenment of the eighteenth and conclude with an examination of our contemporary spiritual, material, and institutional existence in the light of our past development. Students are advised to take both History 170 and 171 since they are parts of a whole, but either course may be taken without the other.
Semester 2 Mr. Lucas

250 THE FORMATION OF THE MODERN STATE: GROUP CONSCIOUSNESS, INDIVIDUALISM, AND SOCIAL ORGANIZATION IN "OLD EUROPE," 1550–1789

This is an examination of pre-French Revolutionary Europe as a corporative and customary political culture; a study of how that culture was altered by absolutism, militarism, mercantilism, early capitalism, modern science, and the requirements of the international system of European states; an appreciation of the social and ideological legacies of the ancient regime.
Not offered 1979–80 Mr. Lucas

251 THE COMPARATIVE STUDY OF REVOLUTIONS: THE FRENCH REVOLUTION OF 1789 AND THE BEGINNINGS OF MODERN REVOLUTIONS

This is an analysis of old and new ideas of revolution including ritual, resistance, reactionary restoration vs. innovation; the "democratic" revolution; the psychology, sociology, and social psychology of revolutionary behavior; and the relevance of the French Revolution to twentieth-century issues.
Semester 2 Mr. Lucas

252 NINETEENTH-CENTURY EUROPE

This is a lecture and discussion course centering around the problems and dilemmas of various European political societies as they responded to the tug of modernity during the century of European preeminence throughout the world.
Not offered 1979–80 Mr. Borg

253 TWENTIETH-CENTURY EUROPE

This is a lecture and discussion course concentrating on the characteristic problems of Europe in a half century of war, economic convulsion, and political instability.
Semester 1 Mr. Borg

254 PROSEMINAR: WORLD WAR I AND EUROPE

Not offered 1979–80 Mr. Borg

255 PROSEMINAR: TOTALITARIANISM

This is a study of the nature of totalitarianism and of the origins, ideology, and operation of the German Nazi and Russian Soviet regimes.
Not offered 1979–80 Mr. Borg

258 INTRODUCTION TO WASP STUDIES: ENGLAND'S "OLD REGIME"

The course examines the formation of the peculiarities of the English "character," state, society, religions, and the world's first modern industrial economy, 1500–1850. To help students grasp these peculiarities, a special emphasis is placed on comparisons of England's experience with continental Europe's and on the use of historical psychology.
Not offered 1979–80 Mr. Lucas

259 MODERN GERMANY

The course offers an examination of the convulsive course of German history over the past century.
Not offered 1979–80 Mr. Borg

260 MODERN SPAIN AND THE CIVIL WAR

This is a study of the history of twentieth-century Spain with emphasis on the origins and the implications of the Spanish Civil War. The course examines the political and economic modernization of Spain from 1898 through the Franco regime. Topics include the development of a republican tradition, the rise of the revolutionary left, and the role of the army in Spanish politics.
Not offered 1979–80 Mr. Little

263 IMPERIAL RUSSIA, 1825–1900

This is an outline of Russian development in the nineteenth century. The emphasis is on political history with occasional exploration of literary and economic history as well.
Not offered 1979–80 Mr. Von Laue

264 REVOLUTIONARY RUSSIA, 1900–1924

The central themes of this course are (1) the collapse of the tsarist regime and the rise of Soviet power and (2) the transformation of a social revolution into an unprecedented experiment of mobilizing a backward empire for global power. For the human dimension of this historic drama, students read Pasternak and Sholokhov and write a short paper on each.
Not offered 1979–80 Mr. Von Laue

265 THE SOVIET REGIME FROM STALIN TO THE PRESENT

This course presents the rise of Soviet Russia as a superpower under Stalin and his successors, emphasizing the interaction between domestic mobilization and the role of the Soviet regime in the world. Reading includes contemporary sources from the Soviet Union and parts of Solzhenitsyn's *Gulag Archipelago.* Three short papers.
Not offered 1979–80 Mr. Von Laue

269 PROSEMINAR: SOCIAL AND CULTURAL HISTORY OF THE RENAISSANCE

This is an introductory study of social structures and forms of thought and expression in Continental Europe from 1350 to 1550, emphasizing the

tension between old traditions and new ideas, and the relation between intellectual and social change, during the transition from medieval to modern times. Selected topics include household and family, the impact of printing, humanism and the revival of antiquity, religious movements and the occult, bourgeois and courtly art, Platonic and utopian idealism.
Semester 2 Mr. Bumgardner

271 IN SEARCH OF HUMANITY: EIGHTEENTH-CENTURY EUROPEAN INTELLECTUAL HISTORY

Students will study the "Enlightenment" and its heirs and critics: the scientific revolution, philosophical reformism, and early conservative romanticism. The emphasis is upon rival perceptions of man's psychological and social nature, history, and aesthetic and religious sensibilities as seen through great secondary treatments of the Enlightenment (which also introduce the student to various ways of doing intellectual history) and original sources: Hume, Beccaria, Rousseau, Condorcet, Kant, Burke, Savigny.
Not offered 1979–80 Mr. Lucas

272 IN SEARCH OF HUMANITY: NINETEENTH-CENTURY EUROPEAN INTELLECTUAL HISTORY

This is a study of the elaboration of the "Enlightenment" by its heirs and critics. The emphasis is the same as in 264, but the focus shifts to an analysis of political and economic liberalism, Social Darwinism, racism, and "utopian" socialism in England and France followed by an analysis of nationalism, Marxism, positivism, old and new conservatisms, and the reassessment of the values and progress of European civilization among principally Italian and German thinkers.
Semester 1 Mr. Lucas

273 PROSEMINAR: EUROPEAN INTELLECTUAL HISTORY

The course offers readings in the classics of modern European intellectual history.
Not offered 1979–80 Mr. Lucas

JEWISH HISTORY

160 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

Refer to course description under Classics 160.
Not offered 1979–80 Mr. Burke

223 AMERICAN JEWISH HISTORY: FROM COLONIAL TIMES TO THE PRESENT

Semester 2 Mr. Waldoks

276 MODERN JEWISH EUROPEAN AND SEPHARDIC HISTORY

This survey covers the period to 1933. Included are emancipation and the development of Reform Judaism in western Europe; political movements of East European Jewry, especially Jewish socialism; different forms of cultural and social change, including new evaluations of Hasidism; and the rise of political anti-Semitism. The effects on Jews of European religious toleration and nationalism and of modern economic systems will be

examined. The impact of European colonialism on Jews in North Africa and the Near East will also be analyzed.
Not offered 1979–80 Staff

277 ZIONISM, 1897–1948

This course considers the major highlights and personalities of the Zionist movement from its beginnings to the rise of Israel. Attention will be paid to the roots of the movement in Jewish culture and nineteenth-century experience. Basic ideological, political, socioeconomic, and conceptual problems will be analyzed. Aspects of Arab nationalism and the role of American Jewry will be included.
Not offered 1979–80 Staff

278 HOLOCAUST: THE NAZIS AND THE JEWS

Semester 1 Staff

LATIN AMERICAN HISTORY

177 LATIN AMERICAN HISTORY SINCE 1825

This is a survey of Latin American nations from independence to the present with emphasis on the twentieth century. Major themes include the persistence of neocolonial social and economic structures, the emergence of nationalist and revolutionary movements after 1900, and U.S.-Latin American relations.
Not offered 1979–80 Mr. Little

AFRICAN HISTORY

179 THE HISTORY OF TRADITIONAL AFRICA

This is an introduction to the history of Africa south of the Sahara. The course will begin with the early civilizations of Kush, Axum, Ghana, Maili, Songhai, Benin, the Sanj, Congo, and Zimbabwe and continue through to the arrival of Europe. Attention will be given to eastern, western, and southern Africa. The approach will be largely historical and anthropological.
Semester 2 Mr. Ford

180 HISTORY OF MODERN AFRICA

The course will introduce students to the major themes of modern African history. It will begin with an orientation to precolonial Africa and then consider four main periods: (1) the imperial years, (2) the struggle for independence, (3) the 1960s as a decade of independence, and (4) the 1970s as a search for identity and development. The course will focus primarily on the years since 1945.
Semester 1 Mr. Anthony

280 AFRICAN VERSUS EUROPEAN CULTURE: CASE STUDIES FROM WEST AFRICA

The interaction of European and African cultures will be studied, from the beginning of European exploration to the present, with special emphasis on the area of modern Ghana. Topics vary from politics to economics, literature, anthropology and ethnology, religion and slavery—covering as many facets of the cultural interaction as possible. A special theme will be announced for this course whenever it is offered. Papers vary according to the theme.
Not offered 1979–80 Mr. Von Laue

ASIAN HISTORY

181 MODERN CHINA, 1644 TO THE PRESENT

This course traces the successive transformations of Chinese life and society from the beginnings of the Ching Dynasty (1644) through the modern period—the focus of the course. Within this time span, China changed from a society with strongly traditional political and social form to a revolutionary nation-state.

Semester 1 Mr. von Glahn

281 PEASANTS AND REVOLUTION IN MODERN CHINA

The focus of this course is on revolutionary peasant movements in China from the Taiping Rebellion in the midnineteenth century to the present People's Republic. Comparative and interdisciplinary approaches will be utilized to examine the process of transforming rural society within the context of modernization.

Semester 2 Mr. von Glahn

INTERNATIONAL DEVELOPMENT

125 DEVELOPMENT PROBLEMS

This is an introduction to the study of development. The course will consider the historical evolution of the concepts of economic growth and development; the nature of development; five alternative approaches to development ranging from conventional theories of capital intensive investment to more radical theories of labor intensive investments; and for a conclusion, an assessment of development policies of governmental and nongovernmental organizations. Historical, geographic, and political considerations will receive special attention.

Semester 1 Mr. Ford, Mr. Berry

282 SOCIALISM AND DEVELOPMENT

Students will read from alternative approaches to African socialism including the views of individuals such as Nyerere in Tanzania, Machel in Mozambique, Senghor in Senegal, Toure in Guinea, and Nkrumah in Ghana. In addition, development strategies underway in a number of African countries, such as Angola, Ethiopia, Zambia, Ivory Coast, and Nigeria will be considered in their historical context. Course materials will be drawn largely from case studies of the development process. Also offered for credit as International Development 282.

Semester 1 Mr. Anthony

283 CLIMATE AND HISTORY: ANALYSIS OF THE INFLUENCE OF CLIMATE ON HISTORICAL CHANGE

This is an inquiry into the influence climatic patterns have exerted on historical events. The course will look primarily at Africa and the U.S. In Africa, attention focuses on the Sahel over the last eight or ten thousand years, but with special focus on the last two thousand. In southern Africa, climate and lifestyle of five different population groups are compared with a similar environmental setting in the great plains of North America. Special attention is given to the Turner hypothesis for institutional development on the frontier.

Semester 2 Mr. Ford

284 CLIMATIC HISTORY AND DEVELOPMENT

The course consists of a series of case studies for development projects in

diversified climate settings. Students will select two or three climatic world regions in Asia, Africa, or Latin America and consider different development strategies in agriculture, health, light industry, or resettlement in each of these regions. The goal of the course is to determine appropriate development strategies for varied cultural and physical settings.
Not offered 1979–80 Mr. Ford

GLOBAL HISTORY

190 SURVEY OF TWENTIETH CENTURY GLOBAL HISTORY

Starting with a brief assessment of the world in 1900, the course offers historical background to the contemporary global order. It is designed to help students view their lives within a worldwide perspective in terms of politics, economics, and culture as well as the human costs and individual resilience shown during the great crises of this century. Students write essays every other week, giving their reactions to the assigned reading and class discussion.
Semester 2 Mr. Von Laue, Mr. Borg

256 THE EXPANSION OF EUROPE, 1415 TO THE PRESENT

The course deals with the universalization of European culture at three key stages: (1) the fifteenth and sixteenth centuries, (2) the late nineteenth century to 1914, and (3) from the Second World War to the present. A central theme is the nature of comparison between Europeans and non-Europeans. Recommended also to students of non-European culture and development.
Semester 1 Mr. Von Laue

287 AN INTRODUCTION TO MARXISM

This introduction is not only for students of history and the social sciences generally, but also for those planning to take more specialized courses on Marxism. The course covers the main aspects of Marx's life and thought as well as of Marxism in the day and after. Three short papers.
Semester 2 Mr. Von Laue

288 MARXISM AND REVOLUTION: RUSSIA AND CHINA

This course traces the evolution of Marxism in Russia and China with special attention to the interaction between Marxist thought and indigenous conditions in these countries. Readings are mostly from Lenin and Mao. A prior acquaintance with Marxism and the history of Russia and China is desirable but not required. Three short papers.
Not offered 1979–80 Mr. Von Laue

289 THE CONTEMPORARY AGE IN GLOBAL PERSPECTIVE

This course attempts to outline the major conditions affecting the individual at the end of the twentieth century. It examines salient features of the external framework of human existence in terms of politics, economics, the relations between rich and poor in the world, technology, ecology, major natural resources, and the role of the individual in national and global society, with a view to helping students plan their lives and expectations more realistically. Written work consists of a diary.
Not offered 1979–80 Mr. Von Laue

290 THE FUTURE

This course extends historical time-perspective forward, sampling the

growing literature of futurology, examining methods of forecasting, projection, scenario-building, and construction of alternative futures, as well as discussing actual forecasts for the future. The purpose of this course is to make students more aware of the inescapable burden of the future and more realisitic about the possibility of effecting a better future. Short written exercises.
Semester 1 Mr. Von Laue

DEPARTMENTAL HONORS

292 HONORS PROSEMINAR

This course attempts to teach students how to write analytical and synthetic research papers and to write them well. The course also introduces students to problems of studying history by learning about the aspirations, advantages, and disadvantages of "historicism." Open to sophomores and juniors, to majors and nonmajors and to honors and nonhonors students.
Semester 2 Mr. Borg, Mr. Lucas

293 HONORS THESIS RESEARCH

Honors students receive up to two credits for thesis research. Honors students preparing for the comprehensive exam receive credit for their reading under History 297. Offered for variable credit.
Semesters 1, 2 Staff

SPECIAL PROJECTS

295 WRITING FOR UPPER DIVISION STUDENTS IN HISTORY AND THE SOCIAL SCIENCES

The course is designed for students planning careers in which good writing counts. It is not a remedial course; it attempts to promote awareness of good prose. Weekly essays, vocabulary exercises, and word study, as well as constant practice of analyzing samples of good and bad style. Required text: Sheridan Baker, *The Practical Stylist.*
Semester 2 Mr. Von Laue

296 PRACTICUM IN THE TEACHING OF HISTORY

Variable credit. Mr. Ford

297 RESEARCH PROJECTS

Undergraduates, normally juniors and seniors, may construct an independent research course with an instructor of their choosing. Prerequisite: permission of instructor. Offered for variable credit.
Staff

298 DIRECTED READINGS

Undergraduates, normally juniors and seniors, may design a directed readings course to consist of a sequence of structured readings on a given topic to be approved and directly supervised by an instructor. Prerequisite: permission of instructor. Offered for variable credit.
Staff

299.9 INTERNSHIP

The student who undertakes an interdisciplinary internship for more than two credits may receive up to two credits in history and the remainder in another department. Prerequisite: permission of instructor and of chairman. Offered for variable credit.

Staff

GRADUATE COURSES

301 STUDIES IN EIGHTEENTH-CENTURY AMERICAN HISTORY

Independent studies. Offered for variable credit.
Semester 1, 2 Mr. Billias

304 COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815

This course take a historiographical approach to the literature in American history from the beginning of the colonial period until the end of America's second War of Independence.
Semester 1 Mr. Billias

310 COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY SINCE 1815

Students examine major topics and themes, with emphasis on historiographical essays.
Semester 2 Mr. Alcorn

311 HISTORICAL METHODS

An examination of the what, how, and why of the historian's craft, with an emphasis on the application of the social sciences to the study of the past. Students will gain experience in all aspects of historical analysis, research, and writing.
Semester 1 Mr. Alcorn

312 STUDIES IN AMERICAN SOCIAL HISTORY

Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Alcorn, Mr. Cocoltchos

315 STUDIES IN ECONOMIC HISTORY

Independent studies. Offered for variable credit.
Semesters 1, 2 Staff

318 RESEARCHERS' SEMINAR: AMERICAN HISTORY

Students will design and conduct professionally-oriented research in American history using primary resources available in the immediate area (with an emphasis on collections at the American Antiquarian Society). Research topics will be chosen in consultation with the instructor, and each student will be required to submit a research paper similar to a professional article.
Semester 1 Mr. Alcorn

330 RESEARCHERS' SEMINAR: RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN REPUBLIC

This seminar deals with the origins of American political parties, the debate regarding the early party system, and a study of the process of nation building.
Semester 2 Mr. Billias

331 RESEARCHERS' SEMINAR: AMERICAN POLITICAL HISTORY

This is a seminar in U.S. political history: methods and topics. Concentra-

tion is on topics selected by instructor and students, with special attention to interdisciplinary methods and most recent works in political history.
Not offered 1979–80 Mr. Formisano or Mr. Billias

332 RESEARCHERS' SEMINAR: NINETEENTH-CENTURY PARTIES AND SOCIAL MOVEMENTS

This seminar concentrates on the most important populist movements in the U.S. in the nineteenth century—especially antimasonry, know-nothingism (nativism and antiCatholicism), antislavery-abolition, and agrarian populism—and connects them to major political parties especially in periods of crisis and realignment. Reading in secondary sources is followed by research in primary sources and the writing of original research papers.
Not offered 1979–80 Mr. Formisano

335 STUDIES IN NINETEENTH-CENTURY U.S. HISTORY

Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Alcorn, Mr. Cocoltchos

336 STUDIES IN AMERICAN CONSTITUTIONAL HISTORY

Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Campbell

337 STUDIES IN DIPLOMATIC HISTORY

Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Little

341 STUDIES IN AMERICAN THOUGHT AND CULTURE

Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Koelsch, Mr. Cocoltchos

342 STUDIES IN AMERICAN INTELLECTUAL HISTORY

Independent studies. Offered for variable credit. Also listed for credit as Philosophy 335.
Semesters 1, 2, Modular Term Mr. Beck

343 AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES

This seminar, given at the A.A.S. (about two miles from Clark), affords students an opportunity to do original research in the society's unique holdings. Students should apply in the spring through Mr. Conron (English Department) or Mr. Billias. This year's seminar, taught by Professor David D. Hall of Boston University, will center around the theme of "Popular Culture in Preindustrial America, 1650-1850." Also listed for credit as History 243.
Semester 1 A.A.S. Staff

344 STUDIES IN RECENT AMERICAN HISTORY

Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Cocoltchos, Mr. Little

349 STUDIES IN CANADIAN HISTORY

Independent studies. Offered for variable credit.
Semesters 1, 2 Staff

350 STUDIES IN EARLY MODERN EUROPEAN HISTORY
Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Lucas

351 STUDIES IN EUROPEAN INTELLECTUAL HISTORY
Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Lucas

352 STUDIES IN MODERN EUROPEAN HISTORY
Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Borg, Mr. Von Laue

359 STUDIES IN RUSSIAN HISTORY
Independent studies. Offered for variable credit.
Semesters 1, 2 Mr. Von Laue

380 STUDIES IN AFRICAN HISTORY
Independent studies. Offered for variable credit.
Semesters, 1, 2 Mr. Ford, Mr. Von Laue

383 STUDIES IN CHINESE HISTORY
Independent studies. Offered for variable credit.
Semesters 1, 2 Staff

395 PRACTICUM IN THE TEACHING OF HISTORY
Offered for variable credit.
Semesters 1, 2 Mr. Ford, Staff

399 GRADUATE READINGS
Offered for variable credit.
Semesters 1, 2 Staff

400 THESIS REASEARCH
Offered for variable credit.
Semesters 1, 2 Staff

Humanistic Studies

PARTICIPATING FACULTY
Albert A. Anderson, Ph.D., Associate Professor of Philosophy, Program Chair
Charles Blinderman, Ph.D., Professor of English
Martyn Bowden, Ph.D., Professor of Geography
Bernard Kaplan, Ph.D., Professor of Psychology
Walter Schatzberg, Ph.D., Professor of German, Foreign Languages and Literatures Department Chairman
Stanley Sultan, Ph.D., Professor of English
Gerald Castonguay, Ph.D., Associate Professor of Music
Marvin D'Lugo, Ph.D., Associate Professor of Spanish*
Ronald Formisano, Ph.D., Associate Professor of History*
Wesley Fuller, M. Mu., Associate Professor of Philosophy
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French
Gary E. Overvold, Ph.D., Associate Professor of Philosophy

Michael K. Spingler, Ph.D., Associate Professor of French
Walter Wright, Ph.D., Associate Professor of Philosophy
John Conron, Ph.D., Assistant Professor of English
Gale Nigrosh, M.A.T., Lecturer in French

*On leave 1979–80

The Program of Humanistic Studies (PHS) is an interdisciplinary program supported through a grant of the National Endowment for the Humanities. Although the program does not offer an undergraduate major, each semester it provides undergraduates a series of integrated seminar courses, or "clusters," each centered around a different theme and exploring the ways in which that theme is approached by investigators from a variety of humanities and social science fields. The objective of the cluster approach to interdisciplinary learning is to combine, for both the student and the faculty member, the strengths of a disciplinary grounding in a subject with the benefits of an interdisciplinary focus on themes and methods.

The humanistic education is concerned with the assumptions and methods the human mind has established in certain areas of knowledge, with emphasis on cultural and historical contexts that give rise to that knowledge—an appreciation for the significance of that subject in its contemporary as well as historical dimensions. In short, the learning experience is broadly defined, not as an isolated approach to a narrow kind of knowledge, but rather as modes of learning which continually stress the tradition and contemporary context of knowledge.

Each cluster in PHS consists of a group of three or four course components in different departments and/or disciplines taught concurrently on aspects of a single theme. Although individualized in terms of the particular methodologies used in each course, all courses in a cluster share a number of common features:

1. general theme;
2. a number of shared readings in all courses within a given cluster;
3. some joint sessions in which all courses in the cluster will meet to discuss the common theme or work in a common activity;
4. a common number of writing assignments, the evaluation of which will be shared in some measure by all faculty participating in the cluster.

All cluster courses are listed in the individual departments and may be used to fulfill major requirements in appropriate departmental majors.

ARTICULATION CLUSTERS—PROJECT ON WRITING (POW!)

Each semester the Program of Humanistic Studies sponsors a number of courses in departments throughout the University. These courses seek to provide students with a format for developing their powers of articulation in writing by addressing them to the intellectual component of the writing activity. To achieve this, we have established a methodology that allows both instructors and students to learn how writing can be used to refine ideas and concepts, that is, as part of the intellectual inquiry of given disciplines. Each such group of courses is defined as an "articulation cluster," similar in general pattern to the theme-centered clusters described above. The courses comprising articulation clusters are all recognized offerings of normal departmental programs. Descriptive listings of each cluster will be available prior to the start of each semester. For more information regarding the particular courses included in articulation clusters for Semesters 1 and 2, students should contact their respective departments or the Program of Humanistic Studies.

THEME CENTERED CLUSTERS

AMERICAN SPACE AND ITS EUROPEAN ROOTS

This is an examination of the European images of the known world at the time of the discovery of America, and of how these early notions affected later thought about America in the areas of geography, philosophy, and the arts. Using literature, film, and other artistic forms, specific models are studied in a variety of contexts: the island, the city, the garden, the frontier, the general contrast between primitive and civilized spaces. The course is listed for credit as Comparative Literature 162, Philosophy 162, and Geography 172.

Not offered 1979–80 Mr. Anderson, Mr. Bowden, Mr. D'Lugo

AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This study is conducted primarily as a senior seminar in which comparative literature, geography, and philosophy provide integrated perspectives on the city. American and European models of classical and contemporary cities are used to analyze the historical, geographic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City. The course is listed for credit as Comparative Literature 272, Geography 272, Philosophy 272, and Spanish 272.

Not offered 1979–80 Mr. Anderson, Mr. Bowden, Mr. D'Lugo

ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS

This is a study of romanticism in philosophy, literature, music, and the visual arts. Romanticism is seen as a rebellion against traditional values in art and life placing the individual at the threshold of modernity. Expressions of the themes of alienation and personal transformation are studied in novels and novellas, poetry, philosophical literary works, program music, painting, and film. The course is listed for credit as Comparative Literature 182, English 182, Music 182, and Philosophy 182.

Not offered 1979–80 Mr. Blinderman, Mr. Castonguay
Mr. Overvold, Mr. Schatzberg

SELF, SYMBOL, AND VALUE

Students engage in an exploration of the self and its transformations from the perspectives of philosophy, literature, and the social sciences. The course examines such issues as the attainment and dissolution of personal identity, the role of language in the formation of the self, selfhood and sexuality, the self in relation to fantasy and imagination, the self and its social context. The course is listed for credit as Comparative Literature 258, Philosophy 258, and Psychology 258.

Not offered 1979–80 Mr. Kaplan, Ms. Kaufmann-McCall, Mr. Wright

IN-FORM-ATION: MEANING THROUGH STRUCTURE IN MUSIC, LITERATURE, THEATER, AND EVERYDAY TALK

This course explores the ways in which form creates meaning. A set of common concepts is used to look at qualities of structure in a variety of creative experiences. Our goal is to develop, in the student, the ability to recognize the significance of forms, whether they occur in art or in

everyday life The course assumes that some of the most meaningful insights into a particular subject may be gained by bringing to bear upon it the critical methods of other areas of knowledge. The course is listed for credit as Comparative Literature 170, Music 170, and Philosophy 149.
Semester 2 Mr. Anderson, Mr. Fuller, Mr. Spingler

International Development and Social Change

PROGRAM FACULTY

Leonard Berry, Ph.D., Program Codirector and Professor of Geography, Director, Graduate School of Geography*
Richard B. Ford, Ph.D., Program Codirector and Associate Professor of History
Cynthia Enloe, Ph.D., Professor of Government and International Relations*
Robert W. Kates, Ph.D., Professor of Geography and Research Professor
Harry E. Schwarz, B.C.E., Professor of Environmental Affairs
Robert C. Hsu, Ph.D., Associate Professor of Economics
Douglas L. Johnson, Ph.D., Associate Professor of Geography
Laurence A. Lewis, Ph.D., Associate Professor of Geography
Frank W. Puffer, Ph.D., Associate Professor of Economics
Harry J. Steward, Ph.D., Associate Professor of Geography
Kirsten Johnson, Ph.D., Assistant Professor of Geography
Philip O'Keefe, Ph.D., Visiting Associate Professor of Geography
Ann Seidman, Ph.D., Professor of International Development (Affiliate)
Theodore H. Von Laue, Ph.D., Jacob and Francis Hiatt Professor of History
Charles Hays, M.D., M.P.H., Associate Professor of International Development (Affiliate)
John Townshend, Ph.D., Assistant Professor in International Development (Affiliate)

*On leave 1979–80

PROGRAM

The Program in International Development and Social Change is a B.A./M.A. offering combining both research and training activities.

The teaching program is designed to introduce students to the complex issues involved in international development, introduce them to a range of research activities, as well as prepare them for careers and participation in international fields. It will attempt to orient majors to the changing world in which we live and to the increasing role developing societies play in the interdependencies of the world's social, economic, and political systems. The program also hopes to attract a wide range of nonmajors in one or more of the courses, seminars, or action research activities. It is also possible to work out a double major with one of the cooperating departments.

A new program in development, launched at a time of disillusionment and widespread doubt about progress in international development, it requires special explanation. It does not seek to train agricultural specialists, highway design engineers, or sanitation system contractors. Nor does the program expect the majority of graduates to work for the established international agencies such as USAID, CARE, or the United Nations. Rather, it is assumed that graduates will acquire basic skills of economic and social analysis as well as an orientation toward development and social change. These skills and attitudes will be well suited for any number of careers in either the private or public sector that deal with developing areas of the world. The program also provides solid preparation for those who seek further training in graduate or professional schools.

To attain these skills, students should work within a combined graduate-undergraduate setting, which blends the breadth of the liberal arts with the specialization of professional training. Thus, the curriculum combines existing courses, new cross-disciplinary courses, an internship, a basic research project, and an applied research activity.

The research program offers faculty, graduate students, and undergraduates opportunities to work individually and cooperatively in topics of concern related to International Development and Social Change. Current research projects include Problems of the World's Least Developed Nations, the Continuing Problems of Drought and Development in West Africa, the Social and Economic Impact of Desertification Worldwide, and Environmental and Long-range Developmental Problems in Eastern Africa. In all this, we are concerned with the relationship between technological intervention and social change in the developing world. Associated with these collaborative research efforts are seminars, symposia, field internships, and summer activities.

The Program in International Development and Social Change expects students to:

1) master basic skills including competence in a foreign language, quantitative skills, and techniques of economic and social analysis;
2) attain an understanding of the development process in its political, economic, historical, and environmental aspects;
3) develop an investigation/research approach to an actual problem and attempt to apply the growing body of theoretical knowledge in an internship experience;
4) wrestle with the problem of hammering out a philosophy of development;
5) pursue a career track, selected from one of three existing options—resource management, development planning, development education, or a modified or combined form of one of these tracks.

Career Tracks with Suggested Courses

Majors in International Development and Social Change will take six courses in a particular field of specialization. In most cases, students will follow the pattern set out in one of three established tracks: development planning, development education, or public administration. In other cases, a student may design a course sequence, subject to approval by an appropriate faculty member, that combines one of the above three tracks or creates a new focus. In every case, the area of concentration should be looked upon as an opportunity for students to link their interest in development with a focus in a specialized field.

For Resource Planning, choose from: Environmental Affairs 201, EA 202, Geog. 150, Geog. 157, Geog. 257, Geog. 268, Geog. 307.

For Economic Planning, choose from: Econ. 115, Econ. 176.

For Political Planning, choose from: Geog. 130, Geog. 230, Geog. 261, Geog. 270, Gov. 275, Gov. 291

For Development Education, choose from: Geog. 205.1, Geog. 205.2, Geog. 206, Ed. 217, History 285, Ed. 252, Ed. 278.

COURSES

1) *Prerequisites:* All students should make certain that prerequisites are completed. One prerequisite requires that students complete Issues and Perspectives and Principles of Economics (Economics 10 and 11). If students have not done so already, they should take these courses as soon as possible. The second prerequisite is foreign language competence. Students should discuss, with a faculty member, their specific interests in the program and, on that basis, determine which language proficiency would be most helpful. Language proficiency can be demonstrated through proven competence or course work equivalent. Students, in consultation with their advisers, may be able to develop programs that fit their particular needs.

2) *Core Courses*—the second category of courses offered in International Development will be core courses.

In addition to the several formal courses, the International Development and Social Change Program sponsors a number of seminars, symposia, action projects, and student exchanges. Prticipation in these several activities is encouraged for majors.

015 INTRODUCTION TO ECONOMIC GEOGRAPHY

This is an introduction to economic geography, including an outline and critique of theories of location and economic development. Also listed for credit as Geography 015.

Semester 1 — Mr. Knos, Mr. O'Keefe

125 DEVELOPMENT PROBLEMS

The several dimensions of development and the reasons why the gap between developed and underdeveloped countries is widening will be explored. Among the disciplines drawn upon will be: Geography, Government, Economics, and Education. Problems analyzed will include urban growth, land reform, unemployment, and government planning. Tanzania, China, Brazil, and other countries will be used as cases. Also listed for credit as Geography 125 and History 125.

Semester 1 — Mr. Ford

129 LATIN AMERICA: ISSUES AND PROBLEMS

The course will review some of the main issues confronting modern Latin America, including rural poverty, the extinction of Indian populations, uncontrolled urban growth, dependent industrial development, and issues in agricultural production. These issues will be analyzed in the light of differing theoretical explanations regarding the nature and dynamics of underdevelopment, as well as in relation to commonly proposed solutions such as self-help housing, agrarian reform, and colonization. Also listed for credit as Geography 129.

Semester 1 — Ms. Johnson

157 RESOURCE MANAGEMENT

Refer to course description under Geography 157.

Semester 1 — Ms. Johnson

200 SENIOR SEMINAR

Required of all majors, this course will have two purposes: to reflect on the previous course work as a summation activity, and prepare individuals for the internships upon which they will soon embark.
Semester 1 Staff

201 APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS

Refer to course description under Environmental Affairs 201. Offered as a half course, first half of semester.
Semester 1 Mr. Schwarz

202 THE BIOSPHERE

Refer to course description under Environmental Affairs 202. Offered as a half course, second half of semester.
Semester 1 Mr. Erickson

203 MAN'S PERCEPTION OF HIS ENVIRONMENT

Refer to course descripton under Environmental Affairs 203. Offered as a half course, first half of semester.
Semester 2 Ms. Johnson

204 ENVIRONMENTAL PLANS AND PROGRAMS

Refer to course description under Environmental Affairs 204. Offered as a half course, second half of semester.
Semester 2 Mr. Schwarz

206 AUTOBIOGRAPHY WORKSHOP

Refer to course description under Geography 206. Offered for half credit. Also listed for credit as Education 206.
Semester 1 Mr. Knos

208 SEMINAR IN ENVIRONMENTAL PERCEPTION, COGNITION, AND BEHAVIOR

Refer to course description under Geography 208.
Semester 2 Ms. Johnson

224 MAPPING FOR INTERNATIONAL DEVELOPMENT

This course will seek to set the current state-of-the-art/future potential of mapping techniques and technology in an international development context. It is planned to augment the lectures and project work with field trips to the cartographic sections of relevant agencies, e.g., United Nations, World Bank, Organization of American States, etc. Also listed for credit as Geography 224.
Semester 2 Mr. Steward

228 MANAGEMENT OF ARID LAND

The drylands of the world present special development problems. Peculiarly prone to degradation, these regions face the difficult task of providing support for a rapidly growing population. Viewed in a historical perspective, the demography, social and livelihood systems, behavioral characteristics, and physical constraints of dryland ecosystems will be analyzed. Special attention will be paid to evaluating the management strategies currently employed in their use, identifying the obstacles

constraining their growth and assessing their future development potential. Also listed for credit as Geography 228.
Semester 1 Mr. Johnson

236 GEOGRAPHY OF INTERNATIONAL DEVELOPMENT

Refer to course description under Geography 236.
Semester 2 Mr. O'Keefe

251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT

An inquiry into current issues of scholarly debate in the field of environmental management. Also listed for credit as Geography 251 and Environmental Affairs 251.
Semester 1 Mr. Kasperson

269 AGRICULTURE AND DEVELOPMENT

Refer to course description under Geography 269.
Semester 2 Ms. Johnson

282 SOCIALISM AND DEVELOPMENT

Refer to course description under History 282.
Semester 1 Mr. Anthony

289 PROBLEMS IN REGIONAL DEVELOPMENT SEMINAR

An introduction to current research on regional decline in advanced capitalist economies. Also listed for credit as Sociology 289 and Geography 289.
Semester 1 Mr. O'Keefe, Mr. Karaska, Ms. Graham
Mr. Shakow, Mr. Ross

290 REMOTE SENSING OF THE ENVIRONMENT

This course will concentrate on the use of remote sensing instrumentation as a tool for the geographer. Students should develop a working understanding of the electromagnetic spectrum as a guide upon which the geographer may choose a sensor or data for geographic investigation and as a basis for communication with others in the field. Hands-on experience with conventional aerial photo interpretation and Earth Resources Observation Systems data will be emphasized. Also listed for credit as Geography 290.
Semester 1 Mr. Steward

298 READINGS IN INTERNATIONAL DEVELOPMENT

Offered for variable credit.
Semesters 1, 2, Modular Term Staff

299 RESEARCH IN INTERNATIONAL DEVELOPMENT

Offered for variable credit.
Semesters 1, 2, Modular Term Staff

302 RESEARCH THESIS

Master's degree candidates will register for two courses, called Thesis Research, while working on their master's degree research thesis. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

307 SEMINAR IN DISASTER PREVENTION IN DEVELOPING COUNTRIES
Refer to course description under Geography 307.
Semester 1 Mr. O'Keefe

357 REGIONAL WATER RESOURCES PLANNING
The process of regional water resources planning is reviewed in the context of broad environmental concerns and is applied to an actual problem. Students, working as a group, select a region and prepare, for that area, a preliminary planning document, which could be used as a guide for future detailed planning. Also listed for credit as Environmental Affairs 357 and Geography 357.
Semester 2 Mr. Schwarz, Staff

Judaic Studies

PARTICIPATING FACULTY
Elena Ashley, Ph.D., Lecturer in Hebrew Language and Literature
Stanley M. Davids, M.H.L., Lecturer in Biblical Literature
Sarah Lieberman, Ph.D., Lecturer in Judaic Studies
Walter Schatzberg, Ph.D., Coordinator for Judaic Studies

The following courses in Judaic Studies are offered in the Departments of Geography, History, and Foreign Languages and Literatures. For course descriptions, check the course listings under those departments. For further information concerning the Judaic Studies Program and to discuss the possibility of integrating Judaic Studies courses within various departmental majors, contact Ms. Ashley or Mr. Schatzberg.

HEBREW LANGUAGE AND LITERATURE COURSES
(See Department of Foreign Languages and Literatures.)

11 ELEMENTARY HEBREW
Refer to course description under Hebrew.
Semesters 1, 2 Ms. Ashley

12 INTERMEDIATE HEBREW
Refer to course description under Hebrew.
Semesters 1, 2 Ms. Ashley

14 ADVANCED INTERMEDIATE HEBREW
Refer to course description under Hebrew.
Semesters 1, 2 Ms. Ashley

130 ADVANCED HEBREW
Refer to course description under Hebrew.
Semesters1, 2 Ms. Ashley

BIBLICAL LITERATURE

119 THE PENTATEUCH
Refer to course description under Hebrew.
Semester 2 Mr. Davids

GEOGRAPHY

188 GEOGRAPHIC AND ENVIRONMENTAL PROBLEMS IN ISRAEL
Refer to course description under Geography.
Semester 2 Staff

HISTORY

223 HOLOCAUST: THE NAZIS AND THE JEWS
Refer to course description under History.
Semester 1 Staff

278 AMERICAN JEWISH HISTORY: FROM COLONIAL TIMES TO THE PRESENT
Refer to course description under History.
Semester 1 Staff

INTERDEPARTMENTAL AND NONDEPARTMENTAL

122 FEMALE SEXUALITY AS REFLECTED IN JEWISH SOURCES
Topics include family and marriage; love and sex; virginity and the bride; the wife and mother; women in high station and government; societal aberrations including adultery, divorce, widowhood. Subjects will be considered in their ancient and medieval settings with a view toward the influence that they exerted on contemporary attitudes.
Semester 1 Ms. Lieberman

SOCIOLOGY

226 SOCIOLOGICAL PROFILE OF AMERICAN JEWISH LIFE
Refer to course description under Sociology.
Not offered 1979–80 Staff

Linguistics and Language Learning

PARTICIPATING FACULTY

James Macris, Ph.D., Professor of English and Linguistics, Program Director
Helen J. Kenney, Ed.D., Professor of Education
Walter Schatzberg, Ph.D., Professor of German

GRADUATE PROGRAM

The Program in Linguistics and Language Learning leads to an M.A. degree wtih two distinct degree options: an M.A. in Linguistics and an M.A. in Education. The latter degree has three concentrations:

1) the teaching of English as a foreign language
2) the teaching of modern foreign languages (French, German, Hebrew, Russian, and Spanish)
3) bilingual/bicultural education

Foreign Language Requirement

Students who intend to teach foreign languages already should have a good command of one foreign language and at least a reading knowledge of a second. Those enrolled in the M.A. program in Linguistics should have done at least three years of college work on one foreign language.

Individuals who lack this requirement may arrange to meet it while they are enrolled in the program. Alternative means of meeting the requirement may be arranged by consultation.

M.A. Thesis or Alternative Requirement

Students who are taking the M.A. degree in Linguistics must write an acceptable thesis. Those taking the M.A. degree in Education must complete a long project, write a long analytical paper, or write an acceptable thesis.

COURSES

88 DIRECTED READINGS

Offered for variable credit.
Semesters 1, 2 Staff

90 SPECIAL PROJECTS

Offered for variable credit.
Semesters 1, 2 Staff

114 GENERAL PHONETICS AND PHONEMICS

Phonetics is the scientific study of all the physical aspects of speech. Phonemics treats of the systematic nature of the use of the physical means to form the communication systems we call languages. This course is concerned with language in general, so as to provide the theoretical framework necessary for describing the pronunciation system of any language. It includes the fundamentals of articulatory and acoustic phonetics, and it proceeds to general structural phonemics and some of its modifications and the theoretical questions raised by them. Prerequisite: permission of instructor. This course, or its equvalent, is a prerequisite to Linguistics 260 (Linguistics and Language Learning). The instructor is prepared to suggest alternative ways of meeting the prerequisite, however. Offered in alternate years as a half course.
Not offered 1979–80 Staff

115 MAN AND LANGUAGE

This is an introduction to the analysis of nature and function of human language and its role in the life of individuals and societies. The approach is interdisciplinary, with attention to the points of view of philology, contemporary linguistics, anthropology, psychology, and philosophy. The lectures focus on such questions as: What is language? What is the relation between language and thought? To what extent does our language determine how we perceive the world? Why and how do languages change? What other functions does language serve besides communication? Why do we not have a world language? How have linguists achieved an objective, scientific analysis of linguistic systems? What are the limitations of such a science? The course is designed for the general student who wishes to know more about the nature of the uniquely and universally human institution of language and for the student or teacher of English or foreign language who is interested in the light linguistic science can throw upon the relations between his or her field and other areas of life and knowledge. Prerequisite: permission of instructor.
Not offered 1979–80 Staff

192 LANGUAGE IN SOCIAL CONTEXT

This is a look at language from the perspective of sociolinguistics. The course will view spoken discourse as situated action, whose meaning both reflects and creates the social context in which it takes place, whether in the everyday world or the world of the literary text. Starting with the notion of speech communities, the class will consider how verbal performance varies as individuals and groups assume different roles in different situations. Topics will include ritualized speech events, linguistic subcultures, male-female language, code-switching, bilingualism, and functions of language in the classroom. Discussion and reading will be supplemented by several short observational tasks. The class is limited to 20 students.

Not offered 1979–80 Ms. Nigrosh

260 LINGUISTICS AND LANGUAGE LEARNING

This is an exploration of various fields of linguistic study from the point of view of their relevance to foreign language learning. Intended to meet the needs of two classes of students: 1) prospective foreign language teachers who already have advanced mastery of their foreign language and 2) other students with a more general interest in the nature of language, whose primary orientation may be toward related problems in, for example, psycholinguistics or sociolinguistics. Approaching language as *behavior* and as *system*, the course directs attention to the levels ranging from the culture system to the system of the language as a whole and finally to its subsystems: lexical, grammatical, and phonological. Offered in alternate years. Prerequisites: Linguistics 114, which may be taken either prior to or concurrently with this course, and for which substitutes may be available if the instructor is consulted well in advance; permission of instructor. Also listed as Education 260. Offered in alternate years.

Not offered 1979–80 Staff

285 SEMANTICS

This course studies meaning. It deals with and classifies the changes in the meanings of words and phrases, and it analyzes simile and metaphor. It also deals with the parametric organization of the semantic system. Some attention is paid to the relation between thought and language. Offered at the discretion of the Department of English. Prerequisite: permission of instructor.

Semester 1 Mr. Macris

287 INTRODUCTION TO LINGUISTICS

This course is devoted to the theory and methodology of descriptive linguistics. It deals with the nature and function of language, the relation between speech and writing, phonology, morphology, syntax, lexicology, the sociocultural setting of language, the contact of linguistic systems, and the problems of "correctness." Emphasis is placed upon the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor.

Semester 1 Mr. Macris

288 COMPARATIVE AND HISTORICAL LINGUISTICS

This course examines the theory and methodology of comparative and historical linguistics. It focuses on linguistic geography, linguistic borrowing, the causes of linguistic change, the comparative method and reconstruction, and problems in analyzing languages with and without a

literary tradition. Emphasis is placed on the dynamics of systems analysis. Offered at the discretion of the Department of English. Prerequisite: permission of instructor.
Semester 2 Mr. Macris

388 GRADUATE DIRECTED READINGS
Offered for variable credit.
Semesters 1, 2 Staff

The following courses are recommended to students interested in Linguistics and Language Learning:

Education 338 BILINGUAL EDUCATION
Refer to course description under Education.
Semester 2 Staff

English 20 ENGLISH AS A SECOND LANGUAGE
Refer to course description under English.
Semesters 1, 2 Ms. Dagnese

English 280 HISTORY OF THE ENGLISH LANGUAGE
Refer to course description under English.
Semester 2 Mr. Macris

English 282 OLD ENGLISH
Refer to course description under English.
Not offered 1979–80 Mr. Macris

English 284 SEMINAR: MODERN AMERICAN ENGLISH
Refer to course description under English.
Not offered 1979–80 Mr. Macris

English 286 SEMINAR: LINGUISTIC APPROACHES TO LITERATURE
Refer to course description under English.
Not offered 1979–80 Mr. Macris

English 295 TEACHING ENGLISH AS A SECOND LANGUAGE
Refer to course description under English.
Semester 2 Mr. Macris

Philosophy 185 PHILOSOPHY OF LANGUAGE
Refer to course description under Philosophy.
Semester 2 Mr. Derr

Management

DEPARTMENT FACULTY

Harold T. Moody, Ph.D., Associate Professor of Economics and Management
William Naumes, Ph.D., Associate Professor of Management
Mark S. Plovnick, Ph.D., Associate Professor of Management
Don M. Shakow, Ph.D., Assistant Professor of Economics

Daniel R. Kilty, Ph.D., Senior Lecturer in Management
David F. Votaw, Ph.D., Senior Lecturer in Management
Hava Kane, Instructor in Management
Margaret Naumes, Ph.D., Assistant Professor of Management (Affiliate)

UNDERGRADUATE MAJOR IN BUSINESS MANAGEMENT

Students interested in a career in management, whether in a profit or nonprofit organization (business, government, education, health care delivery, religious institution, etc.), should consider Business/Management as an undergraduate major. The major offers students the opportunity to develop skills useful for a career within the framework of a liberal arts education; with both educational breadth and practicality, the major offers important advantages.

Skills useful for a career or for additional training are developed at the same time as the student acquires the educational breadth and depth essential for personal and professional growth. The major draws upon a variety of disciplines and, therefore, provides a program that is practical as well as broadly educational. Such a program includes required and optional courses drawn from the offerings of a number of academic departments.

Within the general requirement of the program, and consistent with the concept of the extended major, students may wish to concentrate their interests in particular selections of departmental offerings that relate to aspects of management meeting their needs and interests. For example, Computer Science, Mathematics, Statistics, and Accounting electives provide a basis for a career in the data processing, computational, planning, and related specialties; Psychology, Sociology, Philosophy, and Government stress human behavior in a social context; courses in STS and Environmental Affairs or International Development further an awareness of issues and skills useful in managing public and private responses to important issues; Language and Literature courses help develop the skills in oral and written communication essential in virtually all aspects of management.

While students may extend their interests in any of the above directions, it should be noted that the general thrust or bias of the program is a humanistic one. This emphasis stems from the following considerations:

a) the University's desire to place the program well within the liberal arts framework (All courses are properly part of a liberal arts program and also are selected as electives or parts of a major by students whose major may be in another area.)
b) a commitment to the idea that management, after all, is "getting things done through *people*."

Business/Management at Clark also offers students a greater option concerning their life goals and careers; that is, the major provides:

1) vocational emphasis (i.e., providing the necessary prerequisites for job placement with a bachelor's degree)

OR

2) preparation for graduate study (Depending on the student's choice of departmental or area of concentration, adequate preparation is provided for graduate work—toward a master of business administration degree or a graduate degree in such specialties as Economics, Public Administration, Accounting, or Law.)

UNDERGRADUATE MAJOR

Required course: Psychology 101 (General) or Sociology 101 or Government 150. The particular course chosen should be appropriate for future work in a particular track. Tracks requiring advanced work in one of these fields assume that the appropriate prerequisite has been taken.

Core-required courses for all majors: (Note: These courses should be taken approximately in the order listed. Some courses are cross-listed.)

Economics 10, Issues and Perspectives
Economics 11, Principles of Economics
Computer Science 101, Introduction to Computer Programming, or 103, Introduction to Cobol Programming
Management 102, Principles of Accounting, or Economics 121, Introduction to Accounting Principles
Economics 160, Introduction to Statistical Analysis or any equivalent statistics course

JUNIOR LEVEL

Management 203, Managerial Accounting
Management 210, Management and Behavioral Principles
Management 230, Marketing
Management 240, Corporate Finance
Management 250, Operations Management
Management 280, Corporate Social Responsibility, or Philosophy 144, Business Ethics

SENIOR LEVEL

Management 260, Business Policy

Students must, by the first semester of their junior year, declare themselves as pursuing tracks A, B, C, D, or E within the major. Additional courses from a track are required for completion of the major. The tracks are as follows: Management and Technology, Economics and Finance, Public Policy, Human Resource Management, Quantitative Analyses for Management.

Management and Technology: (For students choosing this track at least one course in the basic sciences is required as a prerequisite; e.g., Biology 108, Chemistry 100, or Physics 11.) Four out of seven of the following courses are required.

1. STS 101, Introductory Case Studies
2. Environmental Affairs 201, Application of Systems Analyses to Environmental Problems
3. Government 214, Business and Politics
4. Geography 157, Introduction to Resource Management
5. Biology 238, Issues in Public Health
6. Sociology 282, Industrial Sociology
7. Environmental Affairs 210, Environmental Protection

Economics and Finance: Four out of six following courses are required.

1. Economics 205.1, Microeconomic Theory
2. Economics 205.2, Macroeconomic Theory
3. Economics 113, Monetary Economics, Theory, and Policy
4. Management 278, Business Law
5. Management 242, Investments
6. Management 303, Managerial Economics (seniors only)

Public Policy: Four out of six following courses are required.

1. Government 109, Introduction to Public Policy and Administration
2. Government 110, Dimensions of Administrative Practice
3. Economics 126, Public Policy Toward Business
4. Sociology 246, Social Planning and Social Policy
5. Management 225, Human Resource Management
6. Government 213, Policy Analysis

Human Resource Management: Four out of six following courses are required.

1. Management 225, Human Resource Management
2. Sociology 291, Small Group and Interpersonal Processes
3. Sociology 256, Social Stratification
4. Government 214, Business and Politics
5. Philosophy 177, Concepts of Self
6. Psychology 170, Introduction to Social Psychology

Quantitative Analyses for Management: Four out of six courses are required. (Note that this track assumes appropriate prerequisite work in Mathematics.)

1. Mathematics 120, Linear Programming
2. Management 251, Operations Research
3. Economics 266, Applied Statistics and Econometrics
4. Economics 265, Basic Econometric Theory
5. Computer Science 201, Advanced Computer Programming
6. Mathematics 12, Calculus

It is important to note that in addition to the formal requirements of the major, students are strongly advised to take courses in Foreign Languages, Mathematics, and writing.

UNDERGRADUATE/GRADUATE PROGRAM

The Department of Management offers undergraduate students the option of participating in a five-year program while at Clark. In this program they may earn a B.A. in their major, as well as the M.B.A. degree. The major features of the program are:

1) an undergraduate major in any of the liberal arts disciplines at the University
2) a series of undergraduate courses in Management which can be used as electives or as preparatory courses for the graduate M.B.A. program
3) a working internship off campus to bridge theory and practice, normally during the junior year
4) graduate courses, beginning in the senior year, which can lead to the M.B.A. degree, and which help prepare students for management positions in business, government, and nonprofit organizations

The five-year program is designed to meet several needs expressed by students today. First, it provides a series of undergraduate courses for students who would like to know something about the field, whether they intend to pursue such a career or are interested in better understanding the society in which they live. Second, these same courses can serve as preparatory courses for many M.B.A. programs across the country, including the Clark University M.B.A. Program. Third, an internship provides needed field experience before a student enters graduate school. Fourth, the total time required by many students who want to pursue both a liberal arts major and a graduate M.B.A. degree can be reduced to a minimum.

The program is designed to provide education which will give both the preparation for immediate employment and the potential for growth toward important positions in organizations. Ultimately, the program is an attempt to bridge the gap between liberal arts education and practical applied learning.

The Program

The program is a carefully designed sequence of educational and work experience, which involves each student from the freshman year through the graduate year. Although it is possible to begin the program as a sophomore or junior, the demands of the program are such that only those who begin early in their college careers may be able to complete all requirements within five years. Others may take longer to earn both the B.A. and the M.B.A. degrees in the program.

Briefly, the program involves five sets of learning experiences:

1) a sequence of four undergraduate courses in the freshman and sophomore years preparing students for an off-campus internship
2) related courses in other departments in Economics, Statistics, Computer Programming, Psychology, and Mathematics, which contain the tools needed for the graduate courses in Management
3) an off-campus internship lasting six months, earning four credits, where work experience can be gained
4) graduate Management courses taken in the senior year
5) the graduate program leading toward either a major applied research project or two research papers in two different fields

Advising of Students and Entrance into the Program

The department expects to be closely involved in the advising of each student who is interested in the five-year program. Since students will be involved in their own majors during their undergraduate years, the required Management courses, as well as the necessary related courses in other departments, must be closely controlled so that students will be able to complete both the major and the M.B.A. within a five-year period. Students must have the signature of an adviser from the Department of Management to participate in an internship and when applying to the Graduate School for admission to the M.B.A. program.

Entrance into the program occurs at two levels. While enrolled in Management 208, Cases in Management, during the junior year, students will make an application to the Department of Management for participation in an internship. Normally, all students who are accepted for the internship will complete it prior to their senior year, so that this decision includes a commitment by both the student and the department. After returning from the internship, students may begin taking graduate courses in the M.B.A. program during their senior year if all prerequisites have been satisfied. During the last semester of the senior year, students may apply for admission to the Graduate School. If the application is approved, students will be conditionally accepted upon their successful completion of the B.A. degree. In this way, the department accepts students into the M.B.A. program while they are still in the senior year.

To summarize: There are two decision points, one during the junior year, which involves application for the internship, and the second, during the senior year, which is the application to the Graduate School.

The Internship

Each internship is a carefully matched experience between a student and a work situation in the management community. Internships will normally occur during the junior year and will typically involve six months of work experience (an academic semester and a summer). The internship is counted as an academic experience for one full semester or four credits.

The department arranges job placement and oversees students while on the job. Students are provided introductory material to their internships in Management 208 and are able to share the experiences of students currently involved in internships. During Management 208, arrangements are made for each internship. Finally, while in the internship, student interns are also involved in seminars within the department to enrich their learning experience.

For students who are interested in international business and management, an option for the internship is work abroad. Prerequisite for participation in this option are two years' study of another language. The internship is coordinated with the University's Department of Foreign Languages and Literatures.

A written project based on the student's experience in the internship is required for the successful completion of the academic credit. This paper, as well as the work experience itself, is under the direction of departmental faculty members.

Summary of Requirements:

1) Eight undergraduate courses in Management—100, 201, 202, 208, and an internship (4 credits)
2) Six related courses—Economics 10, 11, one Statistics, one Computer, one writing, and one Psychology
3 Thirteen M.B.A. courses—three or four as an undergraduate following the internship, nine or ten as a graduate including electives and thesis/directed research
4) A major applied research project or two applied research projects

If students wish to concentrate heavily in one area, the major project should be chosen (2 credits). If students wish to cover more areas of concentration, two papers are written in each of two different areas (1 credit each).

COURSES

100 SURVEY OF MANAGEMENT

A one semester course, offered each semester, as a survey of management theories and practices. It examines the functions of management, such as marketing, finance, operations, and information systems, and it deals in the human side of management, such as personnel, work group formation, and organization development.

Semesters 1, 2 Ms. Naumes

201 PRINCIPLES OF ACCOUNTING

Elements of generally accepted accounting procedures are presented for several major types of institutions, such as business, government, educational, and health. This course may be considered the equivalent of Economics 121, Introduction to Accounting Principles; both courses can not be taken for credit.

Semester 1 Mr. Greenough

202 MANAGERIAL FINANCE

This course is a study of financial decision making from the perspective of the internal financial manager. Topics covered include the sources of financing and allocation of resources. Accounting data to implement economic models is used. This is a required course for the five-year B.A./M.B.A. program. Prerequisite: Management 201.
Semester 2 Ms. Kane

203 MANAGERIAL ACCOUNTING

This advanced course emphasizes accounting from the management perspective. Students learn principles of managerial decision making when using accounting information. Prerequisite: Management 201.
Semester 2 Staff

208 CASES IN MANAGEMENT

This one-semester course provides an overview of the management decision making which interrelates all of the functional and behavioral areas, using a case approach. While in this course, students will meet with current interns to discuss their experiences and learning processes in work environments. Finally, students consider, evaluate, and select an internship in this course, if desired. This course normally is required prior to taking an internship. Prerequisites: Economics 10 and 11, Management 201 and 202.
Semester 1 Mr. Naumes

210 MANAGEMENT AND BEHAVIORAL PRINCIPLES

This capstone type course should be taken during the senior year. The course concerns general principles of management, with a special emphasis on the behavior of people in an organizational context. Topics include principles of organization, decision making, leadership, motivation and rewards, job satisfaction, and appraising employee performance.
Not offered 1979–80 Staff

225 HUMAN RESOURCE MANAGEMENT

This course will cover the general areas of human resource management, to include job design, recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO, OSHA requirements, manpower planning, and women in management. Prerequisite: Management 210.
Not offered 1979–80 Staff

230 MARKETING MANAGEMENT

This course surveys the role of marketing in business and society, focusing on specific marketing activities. Topics include the study of consumer behavior, market segments, and product positioning, as well as new product development and policy, pricing, distribution, advertising, and sales management. Prerequisites: Economics 10 and 11, Management 201 and Statistics.
Not offered 1979–80 Mr. Moody

240 CORPORATE FINANCE

This course is a comprehensive study of financial decision making from the perspective of the internal financial manager. Topics covered include both the varied sources of financing and the efficient allocation of resources. The main format is the use of accounting data to implement economic

models. Prerequisites: Economics 10 and 11, Management 201 and a course in statistics. This course may be considered the equivalent of Economics 122; both cannot be taken for credit.
Not offered 1979–80 Ms. Kane

242 INVESTMENTS

This course will cover investment principles, market behavior, and investment strategy. Investment principles will include: portfolio selection—both fundamental analysis (security analysis) and portfolio theory (technical analysis); debt instruments and money markets; the stock option market; and alternative investments. Prerequisite: Management 240.
Not offered 1979–80 Ms. Kane

250 OPERATIONS MANAGEMENT

This course will survey techniques in the area of model building and operations research. Emphasis will be on topics oriented toward business forecasting as well as rational decision making by managers. Topics will include forecasting, inventory control, system reliability, waiting-line theory, and assembly-line balancing. Prerequisites: Economics 10 and 11, Management 201 and a course in statistics.
Not offered 1979–80 Mr. Votaw

260 BUSINESS POLICY

This capstone type course should be taken during the senior year. Business policy focuses on those general management skills involved in choosing the strategy (or goals and purposes) of organization and in committing critical resources to the organization's goals. The course integrates the major management functions, viewing the organization not only as an organic entity comprising a system in itself, but also "impacting" on and "impacted" by its environment. The method of instruction will be case study. Prerequisites: Economics 10, 11, Management 210, 230, 240, 250, and Statistics.
Not offered 1979–80 Mr. Naumes

278 BUSINESS LAW

The course examines the legal framework within which American business operates. It is concerned with the various laws that determine the rights and obligations of persons taking part in business transactions. Emphasis will be on those areas of the law commonly encountered by the business manager, such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability. The goal will be to provide students with a basis and understanding of the business and legal environment, which will guide future management decisions and inquiry. There will be assigned textual readings and class discussion of cases selected to illustrate these topics.
Not offered 1979–80 Staff

280 CORPORATE SOCIAL RESPONSIBILITY

Managers must understand their environment to make effective decisions. This course focuses on the interaction between the manager and societal forces. Political, social, economic, and legal issues will all be considered. The role of value and ethics in evaluating these environmental forces will be analyzed. The primary method of instruction will involve the use of cases. Paper and group presentations will be required. The course will integrate analytical skills relating to the environment developed in the

basic and core courses. Prerequisites: Management 210 and 230.
Semester 2 Mr. Naumes

299.9 INTERNSHIP
The five-year program requires a four (4) credit internship in the spring semester of the junior year. A variety of other internships is available through the department. Offered for variable credit.
Semester 2 Mr. Plovnick

THE GRADUATE PROGRAM

The M.B.A. program has unique features, which should be evaluated by prospective students in light of their interests and preferences. First, only the most important topics in the study of Management are included: marketing, finance, operations management, and organization behavior. These topics are applied to a wide variety of organizations. Second, to complete the graduate program, students must create a part of their program in conjunction with the faculty, administration, and other students. Third, the department is not solely committed to the study of business organizations. The faculty believes the study of Management applies to all organizations, nonprofit as well as profit. Consequently, the theoretical core of each field of study is emphasized, and descriptive institutional material is used to particularize the core. The mix of students in the program including current and future managers of educational, health, religious, government, and business organizations forces the faculty to focus on the universal principles of managing. Fourth, graduate courses and seminars are scheduled in the late afternoons and evenings. These hours do not mean it is an evening program for part-time students, with a separate program in the daytime for full-time students. It is one program, with both part- and full-time students attending the same courses, seminars, and special projects. This aspect of the program contributes a unique atmosphere in which students learn from each other's wealth of different practical and academic experience.

The M.B.A. program requires 16 graduate credits for the degree, equivalent to four semesters of full-time graduate study. The 16 credits are organized into four categories of course work and independent study (courses meet for 14 weeks, three hours a week, unless otherwise indicated):

1) *Required Background Courses*—These courses are designed to introduce students to the fundamental language, concepts, and skills underlying the traditional or core functional fields of Management. Students with previous course work or experience in these areas may elect to waive these courses by taking and passing waiver exams.
Management 301, Managerial Accounting and Finance
Management 302, Quantitative Methods
Management 303, Managerial Economics
In addition to taking the courses, students must have a basic knowledge of computer programming. This requirement may be met by taking a noncredit, short computer course or by passing a waiver exam. Students who have already completed a computer programming course are considered to have met the requirement.

2) *Required Core Management Courses*—These courses are intended to provide students with basic background knowledge and skills in several

important functional areas in Management.

Management 310, Organization Behavior
Management 330, Marketing Management
Management 340, Financial Management
Management 350, Operations Management

3) As a capstone course for the M.B.A., Business Policy, Management 360 or Small Business Management, Management 361 is required. It is taken after the student has completed the four core Management courses.

4) *Electives*—These courses are designed to meet three objectives: They focus students more intensively on advanced topics in a particular functional area (e.g., Marketing Research), or they provide students an opportunity to integrate previous course work by applying their knowledge/skills to a particular problem area (e.g., Small Business Management), or they provide students an opportunity to explore important related topics in Management (e.g., Legal Aspects of Management or Corporate Social Responsibility).

5) *Required Research Projects*—Students are required to engage in some form of faculty-supervised independent study in Management in order to demonstrate their ability to apply management concepts and techniques to management problems. This research may take the form of empirical scientific studies; comprehensive case analyses; development of quantitative models for forecasting and inventory control, comprehensive review of previous work in some managerial area, or some other approved project.

Research must culminate with either of two products: (1) a major applied research project in one area or (2) two applied research projects in two different areas of management. The independent research project(s) can be counted as up to 2 credits toward the 16-credit requirement for the M.B.A. degree. For more information, contact the department.

COURSES

301 MANAGERIAL ACCOUNTING AND FINANCE

This course is designed to provide an understanding of accounting measurements and an appreciation of the ways in which managers use accounting data. It deals with concepts and tools of analysis necessary for the selection, quantification, and communication of business events through the accounting process. It deals with (1) analysis of cost-volume-profit decisions, (2) the use of standard costs and flexible budgets as a means of managerial control, (3) evaluation of management performance, and (4) relevant cost analysis, with special reference to capital budgeting problems.

Semester 1 — Mr. Greenough

302 QUANTITATIVE METHODS

This course provides an introduction to basic mathematical and statistical techniques of potential use to management. Topics covered are probability, statistical estimation and inference, elementary decision theory, regression analysis, optimization, and matrix algebra.

Semesters 1, 2 — Mr. Votaw

303 MANAGERIAL ECONOMICS

Designed to provide an overview of micro- and macroeconomics, this course helps students gain a general understanding of economics as it affects and can be influenced by the manager. Examples of subject areas covered include monetary and fiscal policies, national income and product, demand and cost analysis, pricing, theory of production, profit and income determination and forecasting.

Semesters 1, 2 — Mr. Kilty

310 ORGANIZATION BEHAVIOR

This course is designed to give students an opportunity to *experience* and investigate the relevancy to Management of a series of topics whose bases can be found in Psychology, Social Psychology, and Sociology. In general, the course explores the interaction between individuals and the systems in which they live and work. It attempts to give insight into the impact on people of their own individual characteristics and of their personal interactions, group situations, and organization structures.

Semester 1 — Mr. Plovnick

311 ORGANIZATION STRUCTURE AND PROCESS

This course is designed to study issues relating to the interaction between organizational structure and processes and individuals within organizations. The primary focus is on the formal and informal organization. Constraints and opportunities presented by organizations will be studied extensively. A combination of lectures, readings, and cases will be used in the course. The course is designed primarily around class discussions of cases, however. Cases will be used to develop skills—analyzing and developing solutions for organizational issues and problems. Students will be expected to prepare case analyses both individually and in groups. Prerequisite: 310.

Semester 2 — Mr. Naumes

315 SEMINAR IN ORGANIZATION THEORY

This seminar is primarily oriented to those students who desire a more thorough background in, and understanding of, the literature in the area of management and organization behavior. Through readings and discussions, the course will trace the evolution of organization theory to modern theories of organization design and managerial behavior.

Not offered 1979–80 — Mr. Plovnick

318 GROUP DYNAMICS

This is a study of small-group behavior in an organization context. The class uses itself as the object of study to understand group behavior. The course covers (a) a brief but comprehensive survey of small group research findings; (b) the primary concepts of group dynamics, e.g., norms, cohesion, conformity, goals, influence, and values; and (c) special topics related to management and organization change, such as group decision making, planning and conducting of meetings, and small group leadership. Prerequisite: 310.

Semester 1 — Staff

319 SEMINAR IN ORGANIZATION BEHAVIOR

Not offered 1979–80 — Staff

320 ORGANIZATION DEVELOPMENT

This course is a survey of and introduction to the field of organization development and change. The course covers the behavioral science theories associated with organization development and an overview of the technologies and methods typically employed in the practice of organization development. Prerequisite: 310.

Semester 2 Mr. Plovnick

322 CONSULTING STRATEGIES AND SKILLS

This course is a study of the consultant as a change agent. Consultation is considered both from the perspective of a person external to an organization and of an internal person (that is, an employee of the organization). The general frame of reference is organization development consultation, and emphasis is placed on understanding various strategies and methods of consulting as well as on the skills involved. Prerequisites: 320 and 318.

Semester 1 Mr. Plovnick

325 PERSONNEL MANAGEMENT

This course will cover the general areas of human resource management to include job design, recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO, OSHA requirements, manpower planning, and women in management. Prerequisite: 310.

Not offered 1979–80 Staff

329 SEMINAR IN HUMAN RESOURCE MANAGEMENT AND ORGANIZATION DEVELOPMENT

Not offered 1979–80 Staff

330 MARKETING MANAGEMENT

This course surveys the role of marketing in business and in society, focusing on specific marketing activities. Topics include the study of consumer behavior, market segments, and product positioning, as well as new product development and policy, pricing, distribution, advertising, and sales management. The course combines background material with case analysis to supply experience in weighing all marketing factors in managerial situations. Prerequisites: 302 and 303.

Semester 1 Mr. Moody

331 MARKETING RESEARCH

This course develops the concepts and tools needed for determining the actual market for products and service. Concepts, such as demand forecasting, consumer attitudes and buying intentions, and consumer images, are developed. Various statistical tools, such as experimental design, sampling theory, regression analysis, questionnaires, and scaling techniques, are used in these analyses. Prerequisite: 330.

Semester 1 Mr. Moody

332 APPLIED MARKETING PROJECTS

This is a "workshop" seminar for students involved in applied marketing projects. The seminar meets weekly with students critiquing each other's work. Topics are assigned as required by the research in progress. Prerequisite: 331.

Semester 2 Mr. Moody

335 INTERNATIONAL MARKETING

This course takes a management approach and considers the problem of marketing across national boundaries and within a number of different national markets. It will cover the international environment and the problems and decisions facing marketing managers, such as the kinds of products, pricing, and promotion necessary to coordinate the firm's international activities. Cases, research projects, occasional guest lecturers, and readings will be used to supplement classroom work. Prerequisite: 330.

Semester 2 Mr. Kilty

339 SEMINAR IN MARKETING

Not offered 1979–80 Staff

340 FINANCIAL MANAGEMENT

This course is a comprehensive study of financial decision making from the perspective of the internal financial manager. Topics covered include both the varied sources of financing and the efficient allocation of resources. The main format is the use of accounting data to implement economic models. Prerequisites: 301, 302, and 303.

Semester 2 Ms. Kane

342 INVESTMENTS

This course will cover investment principles, market behavior, and investment strategy. Investment principles will include: portfolio selection—both fundamental analysis (security analysis) and portfolio theory (technical analysis); debt instruments and money markets; the stock option market; alternative investments—private placements, real estate, land, tax shelters. Students will receive a substantial sum of "money" to invest individually. The objectives will be the discipline of following the dynamics of the market, the experience of investment emotions, and a means to apply actual stock selections. Guest speakers from various sections of the investment community will be invited to present their views and will be available for discussion. Prerequisite: 340.

Not offered 1979–80 Ms. Kane

344 FEDERAL TAX ACCOUNTING

This is a basic course in the principles of federal income tax laws as they pertain to individuals, partnerships, corporations, estates, and trusts. It is a study of the general rules and accounting principles required, with emphasis on preparation of tax returns via specific problem analysis. Prerequisite: 301.

Not offered 1979–80 Staff

349 SEMINAR IN FINANCE

Not offered 1979–80 Staff

350 OPERATIONS MANAGEMENT

This course will survey techniques in the area of model building and operations research. Emphasis will be on topics oriented toward business forecasting, and rational decision making by managers. Topics will include model formulation, Bayesian statistics, linear programming, dynamic programming, time series analysis, queueing theory, and analysis of variance. Prerequisites: 301, 302, and 303.

Semester 2 Mr. Votaw

359 SEMINAR IN OPERATIONS MANAGEMENT

Not offered 1979–80 Staff

360 BUSINESS POLICY

Business policy focuses on those general management skills involved in choosing the strategy (or goals and purposes) of organizations and in committing critical resources to the organizations' goals. The course integrates the major management functions, viewing the organization as an organic entity comprising a system in itself but "impacting" on and "impacted" by its environment. The method of instruction will be case study. Prerequisites: 310, 330, 340, and 350.
Semester 2 Mr. Naumes

361 SMALL BUSINESS MANAGEMENT

This course is a survey of the particular problems involved in the initiation and operation of a small business, with special emphasis on the problems of market structure, finance, and productivity. Entrepreneurial organization and style are discussed relative to a growing and increasingly complex society. Case study and field research projects are the primary method of instruction. Prerequisites: 310, 330, 340, and 350.
Semester 1 Mr. Naumes

362 CORPORATE SOCIAL RESPONSIBILITY

Managers must understand their environment to make effective decisions. This course focuses on the interaction between the manager and societal forces. Political, social, economic, and legal issues will be considered. The role of value and ethics in evaluating these environmental forces will be analyzed. The primary method of instruction will involve the use of cases. Paper and group presentations will be required. The course will integrate analytical skills relating to the environment that were developed in the basic and core courses. Prerequisites: 310 and 330.
Not offered in 1979–80 Mr. Naumes

372 WOMEN IN THE WORK PLACE

The course proposes to provide students with an understanding of theories in the areas of behaviorism, personality, and cognitive development as they relate to the recent research findings of women in the work force. Topics will include attitude formation and change, prejudice and discrimination, stereotyping, out-role behavior, assertiveness, career advancement, job modality stress, and power relationships. The instructional format will be comprised of lectures, class discussions, films, and exercises in group dynamics.
Semester 2 Ms. Naumes

378 LEGAL ASPECTS OF MANAGEMENT

The course examines the legal framework within which American business operates. It is concerned with the various laws that determine both the rights and obligations of persons taking part in business transactions. Emphasis will be on those areas of the law which are commonly encountered by the business manager, such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability. The goal will be to provide students with a basis and understanding of the business and legal environment, which will guide future management decisions and inquiry. There will be

assigned textual readings and class discussion of cases selected to illustrate these topics.
Semester 1 Mr. Fries

384 MULTINATIONAL BUSINESS
This survey course will cover such functional areas as organization, marketing, finance, planning, and the multinational environment. It will cover strategies for developed and developing countries, with specific reference to Europe and Latin America. Prerequisites: 310, 330, 340, and 350.
Not offered 1979–80 Mr. Kilty

Mathematics

DEPARTMENT FACULTY

Robert W. Kilmoyer Jr., Ph.D., Associate Professor of Mathematics, Department Chair
John F. Kennison, Ph.D., Professor of Mathematics
Bhama Srinivasan, Ph.D., Professor of Mathematics
Edward Cline, Ph.D., Associate Professor of Mathematics
Stanley J. Poreda, Ph.D., Associate Professor of Mathematics
John S. Stubbe, Ph.D., Associate Professor of Mathematics
David E. Joyce, Ph.D., Assistant Professor of Mathematics
Lawrence E. Morris, Ph.D., Visiting Assistant Professor of Mathematics
Evelyn B. Vaskas, Ph.D., Assistant Professor of Mathematics, Part Time

UNDERGRADUATE PROGRAM

The department offers several courses of a general nature which may fulfill the needs of students at all levels who are interested in Mathematics either as a discipline in itself or as a foundation for further study in other disciplines.

A variety of elementary mathematical needs can be met by means of the Math Clinic and Tutorial 10. Students work at their own pace and choose a program suited to their needs. The clinic may be taken as a single- or double-strength course in either the first or second semester. Math 11 may be used as a preparation for calculus and may be taken independently of Math 10.

Calculus (Math 120) is normally open to freshmen. However, students with a weak background are advised to take Math 10 or Math 11 first. A placement test will be given during orientation week and other diagnostic tests are available for students who are uncertain about which course to take. The placement test is available at the Mathematics Office and is required of all students who wish to take a mathematics course at or beyond the level of Math 120. It is possible to omit Math 120 and 121, and begin with Math 130 (Intermediate Calculus) if sufficient achievement is shown on the advanced placement test given in high school. If this is done, the student automatically receives credit for Math 120 and 121. A calculus course is strongly recommended for all students in the sciences and for those who are seriously interested in mathematics.

Students who need a basic course in computer programming might take Math 117, which could be followed by Math 118 or 119. Linear algebra has many applications in the sciences and the social sciences. Math 113 is an introduction to this subject; Math 115 is a follow up containing advanced topics. Students who wish to experience some of the beauty of mathematical reasoning at an elementary level might take Math 102, 104, 107, or 113.

The Major in Mathematics

The prospective major is urged to visit the department and to discuss fully the different approaches to the major made available by the department. There are programs in pure mathematics, actuarial science, mathematics/computer science, mathematics/education, and mathematics/management. The objectives and requirements for these programs are outlined below. Although the following descriptions of each option are brief, we hope they indicate the nature of the program involved. We encourage students to call on the department for additional information.

PURE MATHEMATICS: The pure mathematics major at Clark is designed for two groups of students. The first includes the liberal arts student interested in the broad spectrum of mathematical thought who does not wish to limit himself/herself to the more well-defined vocational objectives of the other majors. Such a student will find sufficient flexibility in the program to meet his/her needs. The second group consists of those students planning graduate work in mathematics. The mathematics requirements for this major are 10 semester courses including Math 120, 121 (or the equivalent), 130, 131, 113, and two semesters of a 200-level mathematics course (usually 214 or 215). It is further expected that each major will have a culminating mathematical experience serving to give direction to his/her studies. This requirement will normally be satisfied by an advanced course, either a reading course or an advanced undergraduate course (making a total of three semesters of 200-level courses) or a graduate course. Alternatively, the requirement may be met by an honors project, work study, interdepartmental readings, or other such experiences upon departmental approval, which should be obtained before the senior year. For the student planning to enter graduate school, the department strongly recommends that both the 214 and 215 sequences and at least one graduate course be taken.

The pure mathematics major has a science minor requirement. The objective is that the student be involved in a science to a sufficient depth to ensure that some of the uses of mathematics are illustrated. Each student will take four semester courses in one of the science departments, at least one of which uses mathematics heavily. Introductory courses, which are designed for nonmajors, will not be counted towards the minor. Ordinarily, minors from Chemistry, Physics, and Science, Technology and Society are acceptable without approval. Certain minors from Economics, Geography, Music, Philosophy (related to the study of mathematical truth), Psychology, and Sociology are acceptable with departmental approval.

APPLIED MATHEMATICS: The applied mathematics major is designed for students interested in the application of mathematics to science or social sciences. The major emphasizes analysis for the physical sciences and probability and statistics for the life and social sciences. In addition to those students interested in the applied mathematics major (either alone or as a component of a dual major), it is hoped that the list of courses below will be useful to science students designing a minor in mathematics.

The major will require 10 semester hours of mathematics including Math 120, 121, 130, 131, 113, 117 (or the equivalent), 140, and either 216 or 217. The remaining required courses should be from among the following: 100, 118, 119, 143, any 200-level course, and certain additional Consortium courses upon departmental approval. It is strongly recommended that students interested in physical sciences take 216 while those interested in life and social sciences take 217. The student interested in graduate school should consider the other 200-level courses, especially 214.

The minor requirement consists of a substantial sequence of courses in a mathematically oriented science. The requirement is five semester courses which must not include introductory courses for nonmajors. Minors from Chemistry, Physics, and Science, Technology and Society are acceptable without approval. Certain minors from Biology, Economics, Geography, Psychology, and Sociology are acceptable with departmental approval. The criterion will be that a large proportion of the courses involve the application of mathematical techniques.

ACTUARIAL SCIENCE: Actuarial science could be described as the science of finance and insurance. A program of study in this field requires a firm grounding in mathematics, but involves problems that cut across the interface of statistics, economics, demography, law, and business management as well.

The requirements for this major consist of courses in Mathematics, Management, and Computer Science relevant to actuarial science, specifically: Math 120, 121, 130, 131, 117, 118, 143, 217, English 18 or an approved substitute, plus four units to be chosen from the following: Math 100, 119, 247, Computer Science 102, 103, Management 121, 122, 350, Economics 10, or certain other courses with departmental approval.

It is also possible to replace, with departmental approval, the management courses with the following COPACE courses: Management 121 by BA 117(a) and (b), Management 122 by BA 118, Management 350 by BA 176.

Additional courses in Computer Science, Economics, and Management are recommended as a supplement to this major. Math 150 (Problems Seminar) also is available for those students who wish to prepare for specific actuarial examinations. Please consult with the department for further details regarding actuarial science.

MATHEMATICS/MANAGEMENT: The objective of this program is to make available to the mathematically inclined student the opportunity to prepare for (1) a career in business management, (2) graduate study in operations research, or (3) graduate work in a master of business administration program. Course requirements: Math 120, 121, 130, 131, 217. At least two units from the following: Math 100, 118, 119, 143, 247; Computer Science: Math 117, or CS 101, and at least one additional unit from the following: CS 102, 103, 140; Management Science: Mgmt 100, plus at least one unit from the following: Mgmt 121, 122, 201, 310, 330, 350. It is also possible to replace (with departmental approval) the required management courses with the following COPACE courses: Mgmt 121 by BA 117 (a) and (b); Mgmt 122 by BA 118, Mgmt 310 by BA 195, Mgmt 330 by BA 124 and Mgmt 350 by BA 176; Economics; at least two units, not to include courses which are principally mathematical.

It is also recommended that, as a supplement to this major, students taken Math 143 and 247. In Computer Science, CS 103 is also strongly recommended. A student anticipating further study in an M.B.A. program should attempt to take all the management courses listed above and possibly one or more graduate courses in management. Finally, students are encouraged to acquire a reading knowledge of at least one foreign language.

MATHEMATICS/EDUCATION: The Mathematics/Education Program is designed for the student preparing to teach in the secondary school. This program consists of (1) major in Mathematics, containing courses relevant to students' future needs in teaching, (2) a minor in Education, and (3) additional courses which will help to integrate students' involvement in mathematical education with other areas of knowledge.

The specific course requirements for this major are as follows:

1) The major in Mathematics consists of eight units. Math 120, 121 (or the equivalent), 113, 217, 102 are required and the remaining courses may be chosen from Math 115, 104, 107 and any 200-level course. All majors are required to take at least one unit of a 200-level mathematics course.
2) The minor in Education consists of Psychology 130, Education 290, 217, 272, and 150.
3) Additional course requirements: (a) an introductory laboratory course in the life or physical sciences, (b) four semester courses in any of the following areas: Economics, English, Foreign Language, Geography, Geology, Government, History, Linguistics, Management, Philosophy, Psychology, Sociology, Science, Technology and Society, Visual and Performing Arts.

The minor for this program is designed to meet the present certification requirements in Massachusetts.

MATHEMATICS/COMPUTER SCIENCE: This program enables the student to major in Mathematics with emphasis on Computer Science and its applications, for example, in operations research. It provides a firm foundation for further work or graduate study in Computer Science. This major should be seriously considered as a possible dual major with any field which draws upon Computer Science as a method of analysis. Course requirements: Math 120, 121, 130, 131, 217, 117 or Computer Science 101, Math 118, 119, Computer Science 102, 103, 140, Math 100 or 247. In addition, an advanced course in computer science (at Clark or W.P.I.) or an advanced project must be undertaken. Consult department for approval.

GRADUATE PROGRAM

The department offers courses leading to the degrees of master of arts and doctor of philosophy.

The requirements for the M.A.* are: (1) 10 full courses at least 8 of which must be on the 300 level. These courses usually include one or two full courses of Mathematics 330 — the writing of the master's thesis. They may include seminars and reading courses; (2) the basic courses, Mathematics 316, 318, and 325 must be included. Each of these requirements may be waived for a student presenting evidence satisfying the department of his or her knowledge of the material in question; (3) a master's thesis, and (4) an oral examination.

A student working toward the Ph.D. degree and electing to omit the M.A. thesis and M.A. oral examination will be recommended for the M.A. degree upon successful completion of the Ph.D. preliminary examination.

The requirements for the Ph.D.* follow the general requirements of the graduate school. The Ph.D. preliminary examination is usually given orally, but may be written under certain circumstances. Students should consult with their advisers by November of their second year. Students entering with a master's degree should discuss the examination immediately. Failure to take this examination at the appropriate time may result in the department not recommending a student for continued support. Scholarships, graduate instructorships, and new courses are subject to final approval by the Graduate Board.

The language requirement will be considered to have been fulfilled if the candidate can demonstrate sufficient linguistic ability to carry on effective research in his or her field. The department's decision will depend heavily upon the recommendation of the candidate's adviser.

*All candidates for the M.A. and Ph.D. degrees in Mathematics will be required to serve as teaching assistants or as assistants in the computing center as part of the work for their degrees.

COURSES

10 MATH CLINIC AND TUTORIAL

Individual conferences, diagnostic tests, programmed exercises, and projects are used to develop mathematical skills, concepts, and confidence. This course does not involve classes, but relies on a one-to-one approach. Mathematics 10 may be taken more than one semester as long as the total number of full course credits for 10 and 11 does not exceed two.
Semesters 1, 2 Mr. Kennison

11 INTRODUCTION TO MATHEMATICS

This course is designed to introduce topics in finite mathematics and also can serve as an exposure or review of those topics which are necessary for calculus. Typical areas to be covered include algebra, theory of equations, geometry, trigonometry, and probability.
Semesters 1, 2, Modular Term Mr. Morris

88 DIRECTED READINGS IN MATHEMATICS

Offered for variable credit.
Semesters 1, 2 Staff

89 SPECIAL PROJECTS IN MATHEMATICS

Offered for variable credit.
Semesters 1, 2 Staff

100 MATHEMATICAL MODELS

This course introduces the student to the concept of a mathematical model and its application to the solution of real problems. Examples will include application in the areas of finance, transportation, production scheduling, economics, and population theory. The course will include analysis of models constructed by students.
Not offered 1979–80 Staff

102 INTRODUCTION TO GEOMETRY

This course starts with revisiting Euclidean geometry, then leads, via Desargues's and other theorems, to projective geometry. Some transformations of the plane are considered. Finally, some finite geometries are studied. One of the aims of this course is to show the beauty of the deductive approach in mathematics. Prerequisite: equivalent of Mathematics 11. (Formerly Mathematics 124.)
Semester 1 Mr. Morris

104 THEORY OF NUMBERS

This is an introduction to number theory and also aims to train students to understand mathematical reasoning and learn to write proofs. The topics covered include the unique factorization of integers as products of primes, the Euclidean algorithm, congruencies, Fermat's Theorem, and Euler's Theorem (and some applications of the latter, e.g., magic squares).

Prerequisite: equivalent of Mathematics 11. (Formerly Mathematics 125.)
Semester 2 Mr. Morris

107 INTRODUCTION TO MATHEMATICAL LOGIC

The propositional calculus and the first order predicate calculus, which consists of a language and a method of proving statements made in that language, will be constructed and discussed predominantly in relation to mathematical questions such as consistency and completeness. (Formerly Mathematics 140).
Semester 2 Staff

109 PATTERN RECOGNITION

This is an introduction to sequential methods in the classifications or labeling of a group of objects on the basis of certain subjective requirements. Decision-making will be done on the computer either in the recognition of English characters or in the recognition of certain basic structures taken from the game of Go. Prerequisite: FORTRAN. (Formerly Mathematics 135.)
Not offered 1979–80 Mr. Stubbe

113 MATRICES AND LINEAR ALGEBRA

The course is a study of the fundamental results and computational techniques of matrix algebra and vector spaces. Topics covered may include polynomial rings, systems of linear equations, Gaussian elimination, matrix algebra, determinants, vector spaces, and linear transformations and applications.
Semester 1 Mr. Poreda

115 INTERMEDIATE LINEAR ALGEBRA

This course involves a further, more rigorous treatment of linear algebra than that given in Math 113. Topics include eigenvectors, eigenvalues, canonical forms, bilinear forms, and applications. Prerequisite: Math 113.
Semester 2 Mr. Cline

116 PRINCIPLES OF MODELLING

Refer to course description under Environmental Affairs 116. Also listed for credit as STS 116.
Semester 1 Mr. Puccia, Mr. Gould

117 FORTRAN FOR SCIENCE STUDENTS

This is a half-semester introductory FORTRAN programming course, designed especially for students intending to pursue a major in the mathematically-oriented sciences or for those who possess a fair amount of mathematical sophistication. Although there are no prerequisites, students should have taken about three years of math in high school and should be able to handle elementary algebraic expressions and problems. This course will introduce the basic elements of FORTRAN language and an overview of computer programming and data processing in general. The course is essentially an accelerated version of Computer Science 101. Offered for half credit the first half of Semester 1. (Formerly Mathematics 118.)
Semester 1 Mr. Stubbe

118 ELEMENTARY NUMERICAL ANALYSIS

This is a half-semester introductory course in numerical analysis and the application of computers to the solution of certain numerical problems.

Topics covered will include interpolation, error analysis, and interactive methods. Prerequisite: Mathematics 121 and either Mathematics 117, Computer Science 101, or permission of instructor. Offered for half credit the second half of Semester 1. (Formerly Mathematics 119.)
Semester 1 Mr. Stubbe

119 LINEAR PROGRAMMING

This course will cover linear programming, its applications, and numerical algorithms. The simplex method, game theory, and Markov processes will be included. The linear algebra needed will be covered in the course. (Formerly Mathematics 120.)
Semester 2 Mr. Poreda

120 CALCULUS, PART I

Introduction to differential and integral calculus of one variable. This course is essential for further study in mathematics as well as for the study of applications in the natural sciences. Not open to students who have taken Mathematics 125 or 126. May be taken in either semester. (Formerly Mathematics 12a.)
Semesters 1, 2 Mr. Poreda, Ms. Vaskas and Staff

121 CALCULUS, PART II

Introduction to differential and integral calculus of one variable; sequences and series. This course continues Math 120. Not open to students who have taken Mathematics 126. May be taken in either semester. Prerequisite: Mathematics 120 or 125. (Formerly Mathematics 12b.
Semesters 1, 2 Mr. Kilmoyer, Staff

125 HONORS CALCULUS, PART I

This is an introduction to the calculus primarily for prospective mathematics majors. (Formerly Mathematics 16a.)
Semester 1 Mr. Joyce

126 HONORS CALCULUS, PART II

This course is a continuation of Mathematics 125. (Formerly Mathematics 16b.)
Semester 2 Mr. Joyce

130 INTERMEDIATE CALCULUS, PART I

This course assumes the knowledge of one variable calculus and deals with functions of several variables. Topics covered include partial derivatives, line and surface integration, and sequences and series. Applications of these topics to complex analysis, vector analysis, and Fourier analysis are considered. Prerequisite: Mathematics 121 or 126. (Formerly Mathematics 13a.)
Semester 1 Ms. Vaskas

131 INTERMEDIATE CALCULUS, PART II

This course is a continuation of Mathematics 130. Prerequisite: Mathematics 130. (Formerly Mathematics 13b.)
Semester 2 Ms. Vaskas

140 ELEMENTARY DIFFERENTIAL EQUATIONS

This is an introduction to elementary techniques and concepts for solving and applying differential equations. The equations discussed appear in

biology, economics, the physical sciences, and other fields. They give mathematical models describing exponential growth, exponential growth with bound, vibrating springs, planetary motion, and other similar situations. Prerequisite: Mathematics 131 or permission of the instructor. (Formerly Mathematics 145.)
Not offered 1979–80 Staff

143 ACTUARIAL SCIENCE
This course deals with the mathematics of finance and its applications. Compound interest, life contingencies, and population theory will be among the topics covered. The course is designed to introduce the student to the material included in the third and fourth (F.S.A.) actuarial exams. Prerequisite: Mathematics 121 or permission of the instructor. (Formerly Mathematics 153.)
Not offered 1979–80 Staff

150 PROBLEMS SEMINAR
This course emphasizes the creative use (as opposed to the mere acquisition) of mathematical tools. Students should develop their mathematical resourcefulness by pursuing one or more of the "problem areas" presented. The problems will be fairly specific yet open-ended and of interest to students at varying levels and with differing mathematical tastes. The course should be good preparation for actuarial examinations, for Mathematics 200, and for students who eventually wish to construct and analyze mathematical models in, for example, the social sciences. (Formerly Mathematics 160.)
Semesters 1, 2 Mr. Kennison

200 ADVANCED PROJECTS
This course is intended for students pursuing advanced projects that involve mathematics. These projects might arise from mathematics or from some other discipline. Signature required. Offered for variable credit.
Semesters 1, 2 Staff

214 MODERN ANALYSIS
Topological and metric methods are introduced and studied. These generalize and explain many ideas first encountered in calculus. These methods will be applied to study differentiation, integration, and convergence, among other topics, in greater depth. Prerequisite: Mathematics 131 or 113 or permission of instructor.
Not offered 1979–80 Staff

215 MODERN ALGEBRA
This course introduces the theory of groups, rings, fields, integral domains, canonical forms, and related topics. The treatment will be axiomatic with emphasis on the construction of the proofs of certain theorems. Prerequisite: 113 or permission of instructor.
Not offered 1979–80 Staff

216 INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE
This is an introductory course designed for the undergraduate science major or graduate student preparing for Mathematics 316. Cauchy's theorem, Power series, Laurent series, the residue theorem, harmonic functions, and physical applications, such as problems in two dimensional flow, are among the topics to be covered. The object is to convey

understanding of the classical theorems of complex analysis as opposed to rigorous proofs of their most general statements.
Not offered 1979–80 Staff

217 PROBABILITY AND STATISTICS

This course is designed to introduce students to the theory and applications of probability and statistics. Techniques used to solve problems will be stressed along with the associated mathematical theory. Among the topics covered are combinatorial methods, postulates of probability, stochastic processes, probability densities, mathematical expectation, sampling distributions, estimation, hypothesis testing, regression, and correlation. The syllabus for this course includes most of the material recommended for those preparing for the second (F.S.A.) actuarial examination.
Semesters 1, 2 Mr. Joyce

218 INTRODUCTION TO TOPOLOGY

Point set topology, metrization theorems, extension theorems will be covered during the first half. During the second half, algebraic topology, a branch of mathematics that studies properties of solids and surfaces under continuous deformation (i.e., the geometry of rubber sheets), will be introduced. Topics in homotopy and homology theory will be covered.
Semesters 1, 2 Mr. Cline

244 DIFFERENTIAL EQUATIONS

First order and linear differential equations are covered. Various methods of solution are stressed, i.e., series, integrating factors, variation of parameters, etc. An introduction to partial differential equations and boundary value problems is discussed, with some applications to fluid and thermal dynamics.
Semester 1 Mr. Cline

245 APPLIED MATHEMATICS

This course studies the development of orthogonal functions, Fourier Series, Legendre Polynomials, and Bessel functions and their use in solving heat conduction and vibration problems, the Laplace Transfrom. Corequisite: Mathematics 130 or 131.
Not offered 1979–80 Staff

247 OPERATIONS RESEARCH

Linear models, linear programming, the simplex method, sensitivity analysis, network analysis, and dynamic programming will be covered in this one-semester course. Prerequisites: Mathematics 12 and 113.
Not offered 1979–80 Mr. Poreda

290 TOPICS IN ANALYSIS

Content will be changed from year to year; interested students should contact the department secretary for details. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

292 TOPICS IN TOPOLOGY

Topics from the theory of algebraic topology and differential geometry will be given. Course content will be changed from year to year.
Not offered 1979–80 Mr. Cline

293 TOPICS IN GEOMETRY

Content will be changed from year to year; interested students should contact the department secretary for details. Offered for variable credit.
Semesters 1, 2, Modular Term — Staff

298 HONORS I

Offered for variable credit.
Semesters 1, 2 — Staff

299 HONORS II

Offered for variable credit.
Semesters 1, 2 — Staff

300 SET THEORY

The course studies the foundations of set theory and the relationship of various fundamental axioms, such as Zorn's Lemma and the Axiom of Choice. Point-set topology is examined as far as the Hahn-Mazurkiewicz Theorem.
Semesters 1, 2 — Mr. Joyce

316 FUNCTIONS OF A COMPLEX VARIABLE

This course deals with the theory of functions of one complex variable that possesses a derivative. It is intended that the student in this course be brought to the point where he or she can comprehend the existing unsolved problems as well as the historical development and applications of this field. Among the most advanced topics are conformal mapping, entire functions, geometric function theory, approximation theory, and Banach spaces of analytic functions. Prerequisites: Mathematics 214 or permission of instructor.
Not offered 1979–80 — Mr. Poreda

318 FUNCTIONS OF A REAL VARIABLE

This is a course in the real number system, topology, measure theory, and related topics. Signature required.
Semesters 1, 2 — Mr. Kennison

321 ALGEBRAIC TOPOLOGY

This is an introduction to algebraic topology including fibrations and coverings, homotopy, and homology. The relation with category theory will be emphasized. Prerequisites: Mathematics 215 and 318 or permission of instructor.
Not offered 1979–80 — Staff

325 ADVANCED MODERN ALGEBRA

This course studies group theory, including the Sylow theorems, free groups, finitely generated abelian groups. Categories and functors, Ring Theory, including factorization in commutative rings, polynomial rings, modules over a p.i.d. duality, tensor products. Fields and Galois Theory, including field extensions, finite fields, cyclotomic fields, separability, the fundamental theorem of Galois Theory, and the general equation of degree n. linear algebra, including canonical forms of a matrix, and bilinear forms. If time permits, the Wedderburn structure theorems for Artinian rings. Prerequisite: Mathematics 215.
Not offered 1979–80 — Mr. Kilmoyer

326 SELECTED TOPICS IN COMPLEX ANALYSIS

The course includes topics selected from the theory of univalent and multivalent functions, geometric function theory, zeros of polynomials, and extremal polynomials. Prerequisite: Mathematics 316 or permission of instructor.

Semesters 1, 2 Staff

327 FUNCTIONAL ANALYSIS

Offered as a full course.

Semesters 1, 2 Staff

330 MASTER'S THESIS

Offered as a full course.

Semesters 1, 2 Staff

335 SELECTED TOPICS IN ALGEBRA

Prerequisites: Mathematics 325 or permission of instructor.

Semesters 1, 2 Staff

341 DIFFERENTIAL EQUATIONS

The course covers ordinary differential equations, theory, and techniques of solutions; partial differential equations; Fourier transform, distributions, and their applications.

Semesters 1, 2 Staff

358b CATEGORY THEORY

This is an introduction to the basics of category theory.

Semesters 1, 2 Staff

376 REPRESENTATION THEORY OF FINITE GROUPS

Prerequisite: Mathematics 325 and permission of instructor.

Semesters 1, 2 Staff

381 SEMINAR IN COMPLEX VARIABLES

Offered as a full course.

Semesters 1, 2 Staff

382a SEMINAR IN ABSTRACT ANALYSIS

Offered as a full course.

Semesters 1, 2 Staff

383 SEMINAR IN ALGEBRA

Offered as a full course.

Semesters 1, 2 Staff

384 SEMINAR IN CATEGORY THEORY

Offered as a full course.

Semesters 1, 2 Mr. Kennison

390 READINGS IN MATHEMATICS

This course offers reading of the mathematical literature related to the student's research program.

Semesters 1, 2 Staff

391 RESEARCH IN MATHEMATICS
Direction of the Ph.D. dissertation.
Semesters 1, 2 Staff

Music

See Department of Visual and Performing Arts.

Philosophy

DEPARTMENT FACULTY

Robert N. Beck, Ph.D., Professor of Philosophy, Chair
Albert A. Anderson, Ph.D., Associate Professor of Philosophy
Gary E. Overvold, Ph.D., Associate Professor of Philosophy
Walter E. Wright, Ph.D., Associate Professor of Philosophy
Patrick G. Derr, Ph.D., Assistant Professor of Philosophy

UNDERGRADUATE PROGRAM

The department offers courses to students who wish to broaden their intellectual perspective by tracing relations among the various fields of knowledge and to those who wish to major in Philosophy.

The requirements for the Philosophy major are: one course in logic (Phil 101, 103, or 160), two courses in the history of Philosophy (121, 122, 123, or 125), four advanced courses (140–299), and at least one elective. The four advanced courses must include at least one course from each of the three areas listed (values, knowledge, and being). At least one of the advanced courses must be a seminar.

In addition to the core major, each student will be required to achieve competence in another discipline. This can be done either by completing the requirements for a double major or by completing six courses in related fields. In consultation with the adviser, the student selects four courses in one discipline (three must be above the introductory level) and two courses from other areas.

For students who are motivated to undertake substantial independent research, the department offers both a senior thesis program and departmental honors in Philosophy. Departmental honors are conferred upon majors who, in addition to the usual requirements, fulfill the following three prerequisites: (1) successful completion of a senior thesis, including the oral defense; (2) successful completion of a comprehensive written examination in the major; and (3) an academic record of at least B+ in the major and B overall.

The following table of course distribution summarizes the requirements and options for Philosophy majors.

INTRODUCTORY COURSES

Analytic Reasoning
Problems of Philosophy
Personal Values
Introduction to Logic

INTERMEDIATE COURSES

History of Ancient Philosophy
History of Medieval Philosophy

History of Renaissance and Modern Philosophy
Medical Ethics
Legal Ethics
Business Ethics
Social and Political Ethics
History of Contemporary Philosophy

ADVANCED COURSES

A. PROBLEM OF VALUES

Problems of Ethics
Aesthetics
Social Philosophy
Philosophy of Religion
Philosophy of Law
Philosophy of Education
Theory of Value
History of Philosophy courses
Seminars in Philosophy
Advanced Topics in Philosophy

B. PROBLEM OF BEING

Metaphysics
Ontology
Phenomenology
Philosophy of Mind
Concepts of the Self
Existentialism
Kierkegaard and Nietzsche
History of Philosophy courses
Seminars in Philosophy
Advanced Topics in Philosophy

C. PROBLEM OF KNOWLEDGE

Epistemology
Symbolic Logic
Philosophy of Science I
Philosophy of Science II
Philosophy of Social Science
Philosophy of Language
Philosophy of Mathematics
History of Philosophy courses
Seminars in Philosophy
Advanced Topics in Philosophy

INTRODUCTORY COURSES

100 PROBLEMS OF PHILOSOPHY

This is an introduction to fundamental problems of philosophy through study of alternative philosophical positions. Problems of ethical, political, and aesthetic value; knowledge and reality; religious belief; and human nature and freedom are considered through reading major works by philosophers such as Plato, Descartes, Hume, Kant, Nietzsche, James, Camus, and Whitehead. Limited to freshmen.

Semester 2 — Mr. Anderson

101 INTRODUCTION TO LOGIC

This is a study in logic as philosophy and practice. It is an introduction to the meaning of logical reasoning with a study of its principles and

methods; an investigation of the philosophical presuppositions of logic.
Semester 1 Mr. Overvold
Semester 2 Mr. Wright

102 PROBLEMS OF PHILOSOPHY

The course studies the nature and methods of philosophy, with application of philosophical method to contemporary personal and social problems. Detailed analysis of some typical problems in various fields of philosophy is included. Open to freshmen and upperclassmen.
Semester 1 Mr. Derr

103 ANALYTIC REASONING

The purpose of the course is to develop the skills of analytic reasoning. One major element in this exercise is the analysis of a number of argumentative essays on various topics, e.g., capital punishment, the character of science, the problem of evil, the nature of law, abortion, etc. We shall analyze such material with an eye toward its cogency and its persuasiveness, i.e., what are the premisses and conclusions, what are the significant presuppositions and implications, and what are the argumentative tactics and strategies employed. These essays will be drawn from a variety of sources including classical works, journal articles, and newspaper editorials. The course work is designed to aid students in learning how to read, write, and think analytically and argumentatively.
Semesters 1, 2 Mr. Overvold

105 PERSONAL VALUES

The course involves exploration of philosophical approaches to the fundamental human value problems such as truthfulness, sexual integrity, love, violence, war, and death. The connection between personal value choices and ethical theories will be studied. Limited to freshmen.
Semester 1 Mr. Derr, Mr. Wright

110 PROBLEMS OF PHILOSOPHY

(See course description under Philosophy 102.) Not open to freshmen.
Semester 2 Mr. Beck

INTERMEDIATE COURSES

121 HISTORY OF ANCIENT PHILOSOPHY

The course examines the origins of philosophical thought in the West with emphasis on the early Greeks, Plato, and Aristotle. It includes examination of classical theories of man, society, and nature providing background for later philosophical reflection.
Semester 1 Mr. Anderson

122 HISTORY OF MEDIEVAL PHILOSOPHY

Students study the major Jewish, Islamic, and Christian philosophers of the medieval period, with special attention to Moses Maimonides, Averroes, Aquinas, and Ockham. Typical issues include the relation of faith and reason, the nature of universals, and political theory.
Not offered 1979–80 Mr. Derr

123 HISTORY OF RENAISSANCE AND MODERN PHILOSOPHY

The two great movements in modern thought—Continental rationalism

and British empiricism—will be examined from their common origin in Descartes to their later articulations by Locke, Berkeley, Spinoza, Leibniz, and Hume. Particular emphasis is given to the powerful influences of the modern period upon contemporary philosophy.
Not offered 1979–80 Mr. Derr

125 HISTORY OF CONTEMPORARY PHILOSOPHY
This is an investigation of the major types of philosophical thought distinctive of recent philosophy: pragmatism, logical positivism, ordinary language, philosophy, existentialism, and phenomenology. Emphasis is upon each as a coherent perspective upon experience with a focus on the style and methodology of each view. Prerequisite: one full course in philosophy (Philosophy 123 or 124 is recommended).
Semester 2 Mr. Overvold

130 MEDICAL ETHICS
This is a philosophical investigation of typical issues in medical ethics. These may include: psychosurgery, behavior modification and control, euthanasia, suicide, definition of death, informed consent, moral issues in research and human subjects, genetic testing and counseling, abortion, cloning and in vitro fertilization, confidentiality and truth-telling, patients' rights, and allocation of scarce medical resources. (Formerly Philosophy 140.)
Modular Term Mr. Derr

132 SOCIAL AND POLITICAL ETHICS
Value conflicts and alternatives are examined in the context of such social and political issues as policy making, representation, society and conscience, means and ends, authority, power, and the common good, with special emphasis on their bearing on current social problems.
Semester 2 Mr. Beck

133 BUSINESS ETHICS
This course will provide a philosophical survey of some typical issues in business ethics. These may include: truth in advertising, affirmative action and preferential hiring, professional responsibility, the environment, the moral status of capitalism, poverty and unemployment, and corporate involvement in politics and foreign affairs. (Formerly Philosophy 144.)
Semester 2 Mr. Derr

136 LEGAL ETHICS
Value issues are explored as they relate to legal institutions and practices: law and morality, professional ethics, the ground and nature of rights, the ideal of justice.
Not offered 1979–80 Mr. Beck

139 WOMEN AND PHILOSOPHY
This course is designed to be offered jointly by the Department of Philosophy and the Women's Studies Program. It is concerned with examining two principal issues: First, attention is given to the prevalent images of women in the history of Western philosophical thinking, including the tradition's misogyny and the glimmerings of feminism in Mill, Wollstonecraft, and others. Second, the course will look at issues in contemporary philosophy affecting the interests and status of women, including current debates about sexual differences, the meaning of

liberation vis-à-vis women, and the philosophical status of feminism as a social ideal. (Formerly Philosophy 149.)
Semester 2 Mr. Wright

ADVANCED COURSES

141 PROBLEMS OF ETHICS

The course offers consideration of important ethical theories to acquaint students with the problems and scope of ethics and to aid them in the formulation of an ethical outlook. Not open to freshmen.
Semester 1 Mr. Beck

142 SOCIAL PHILOSOPHY

Students examine principles underlying social structure and functions; the goals, purposes, norms, and ideals of social process; and the relation of that process to the individual good. Not open to freshmen.
Not offered 1979–80 Mr. Beck

145 EXISTENTIALISM

This is a study of the major philosophers in twentieth-century existentialism, with a focus on their redefinition of man in terms of his "lived world" and his nonrational capacities. Prerequisite: two full courses in philosophy.
Semester 1 Staff

148 HISTORY OF AMERICAN PHILOSOPHY

This is a survey of important philosophical ideas in America with emphasis upon their relationship to the American experience. Prerequisite: one full course in philosophy. (Formerly Philosophy 126.)
Not offered 1979–80 Mr. Beck

149 IN-FORM-ATION: MEANING THROUGH STRUCTURE IN MUSIC, LITERATURE, THEATER, AND EVERYDAY TALK: AESTHETICS

Students examine representative theories of the nature of the arts (literature, drama, music, and visual arts), the creative process, aesthetic experience, and art criticism, such as those of Aristotle, Nietzsche, Collingwood, Fischer, Dewey, Langer, Sartre, and Arnheim. Offered as part of a Humanistic Studies cluster. Also listed for credit as Comparative Literature 170 and Music 170.
Semester 2 Mr. Anderson

150 PHILOSOPHY OF RELIGION

Students study the nature of religion as revealed by the examination of representative forms of religious experience. Emphasis is placed on the effect of contemporary knowledge on the understanding of the religious dimension. Prerequisite: one full course in philosophy.
Not offered 1979–80 Mr. Wright

151 PHILOSOPHY OF VALUE

A study of the value dimension in representative domains of human life and learning including the nature, function, and justification of value judgments; the nature of criticism; the role of psychological, social, and political conditions; and the foundations of such normative disciplines as art, science, ethics, and politics.
Modular Term Mr. Anderson

152 PHILOSOPHY OF LITERATURE

Philosophical approaches to poetry, drama, and the novel through consideration of issues such as truth in literature, the writer and society, the nature of imagination, literary style, and criteria for criticism. Prerequisite: permission of instructor. (Formerly Philosophy 151.)
Semester 1 Mr. Wright

155 PHILOSOPHY OF SCIENCE I

The course concentrates on the following issues: What constitutes a scientific explanation? Can inductive inferences be justified? What grounds or reasons justify the claim that one theory is better than another? Are there such things as objective "facts"? Do scientific theories tell us what the ultimate constituents of the universe are? Prerequisite: one full course in philosophy (waived for science majors) or permission of instructor.
Not offered 1979–80 Mr. Derr

160 SYMBOLIC LOGIC

This is a basic course in symbolic logic with stress on principles of deductive rigor. There will be some consideration of the philosophical implications of logic. Topics to be discussed include: sentential calculus, predicate calculus, Tarski's definition of truth, selected metatheorums, and Henkin's completeness proof for the first order predicate calculus. Prerequisite: permission of instructor.
Semester 1 Mr. Wright

162 AMERICAN SPACE AND ITS EUROPEAN ROOTS

This is an examination of the European images of the known world at the time of the discovery of America, and of how these early notions affected later thought about America in the areas of geography, philosophy, and the arts. Using literature, film, and other artistic forms, specific models are studied in a variety of contexts: the island, the city, the garden, the frontier, the general contrast between primitive and civilized spaces. The course is listed for credit as Comparative Literature 162, Philosophy 162, and Geography 172.
Not offered 1979–80 Mr. Anderson, Mr. Bowden, Mr. D'Lugo

170 KANT AND THE NINETEENTH CENTURY

Trends in philosophy during this period are considered as background for understanding recent philosophy. Philosophers studied may include Fichte, Hegel, Schopenhauer, Nietzsche, Marx, Engels, and Comte. Prerequisite: two full courses in philosophy; Philosophy 123 is recommended. (Formerly Philosophy 124.)
Not offered 1979–80 Mr. Wright

171 KANT

Immanuel Kant is viewed as a synthesis of the traditions of Continental rationalism and British empiricism. Prerequisite: two full courses in philosophy, including Philosophy 123.
Not offered 1979–80 Staff

174 PHILOSOPHY OF MIND

This is a critical examination of the "nature" or concept of mind. Related issues to be considered are: mind-body relationship, the identity theory of mind/brain, the thesis of the dualism of the mind and matter. and other

themes that involve the philosophical examination of psychological phenomena. Prerequisite: two full courses in philosophy, preferably including at least one intermediate or advanced course.
Semester 2 Mr. Overvold

175 METAPHYSICS

Students receive clarification of the nature of metaphysical thinking and views of representative philosophers on the nature of space, time, causality, matter, force, self-identity, mind, body, and freedom. Prerequisite: two full courses in philosophy.
Not offered 1979–80 Mr. Anderson

176 ONTOLOGY

Two of the most fundamental issues in metaphysics are treated in depth: the problem of universals and the problem of substance. The course includes an examination of nominalism, conceptualism, realism, bundle theory, bare-particular theory, and essentialism. Prerequisite: two full courses in philosophy.
Semester 2 Mr. Derr

177 CONCEPTS OF SELF

This is an investigation of several perspectives on the nature of the human self. The course will deal with the writings of such thinkers and philosophers as Plato, Aristotle, Descartes, Hume, Heidegger, Strawson, Ornstein, and Castaneda. Emphasis is on group discussion and interaction. Prerequisite: two full courses in philosophy.
Not offered 1979–80 Mr. Wright

180 EPISTEMOLOGY

The study of epistemology is, broadly, the study of the nature of knowledge. Within this very general heading are a host of specific topics and from that group this course will focus on the interrelationships among belief, knowledge, evidence, proof, truth, and also will consider the problem of skepticism. Prerequisite: two full courses in philosophy.
Not offered 1979–80 Mr. Overvold

182 ROMANTICISM IN THOUGHT, LITERATURE AND THE ARTS: KIERKEGAARD AND NIETZSCHE

This course offers an interdisciplinary investigation of the themes of nineteenth century romanticism through the analysis of major writings by Soren Kierkegaard and Friedrich Nietzsche. Emphasis is on their doctrines of knowledge, existence, and man, and their relationship to romanticism in German and English literature and in music. Prerequisite: permission of instructor. This course is part of a Humanistic Studies cluster and also is listed for credit as Comparative Literature 182, English 182, and Music 182.
Not offered 1979–80 Mr. Overvold

185 PHILOSOPHY OF LANGUAGE

This is an analysis of the concepts of reference, meaning, rules, intentionality, intensionality, and the relation of language to thought. Particular attention is given to the speech act tradition (Austin, Grice, Strawson, Searle), the recent developments in transformational-generative grammar (Chomsky, Katz), and the implications of language theory for the social sciences (Ricoeur). Prerequisite: two full courses in philosophy or one full course in linguistics or permission of instructor.
Semester 2 Mr. Derr

186 PHILOSOPHY OF SCIENCE II

This is an advanced treatment of human rationality as exhibited in science. Prerequisite: two full courses in philosophy or three full courses in the sciences.
Semester 1 — Mr. Derr

200 ADVANCED TOPICS IN PHILOSOPHY

This course offers group discussion, individual tutorials, and independent research in areas of philosophy. The independent research involves a topic of each student's choice within the designated area. Prerequisite: where appropriate, completion of regular departmental courses(s) in the area; two full courses in philosophy; and permission of instructor. Offerings vary each semester. Topics include: Husserl, philosophy of law, existentialism, German philosophy, social philosophy, philosophy of language, Greek philosophy, aesthetics, philosophy of logic. Offered for variable credit.
Semesters 1, 2 — Staff

201 SURSEMINAR: RESEARCH AND WRITING IN PHILOSOPHY

Prerequisite: permission of instructor. Offered for half credit.
Not offered 1979–80 — Mr. Beck

202 SURSEMINAR: PHILOSOPHICAL JOURNALS

Prerequisite: permission of instructor. Offered for half credit.
Not offered 1979–80 — Mr. Beck

203 SURSEMINAR: TEACHING IN PHILOSOPHY

Prerequisite: permission of instructor.
Not offered 1979–80 — Staff

204 SURSEMINAR: READINGS IN PHILOSOPHY IN GERMAN

Prerequisite: permission of instructor.
Not offered 1979–80 — Mr. Wright

205 APPLIED AESTHETICS

The course offers examination of philosophical ideas in the context of concrete artistic phenomena. Topics will alternate among architecture, literature, music, theater, and the media. Emphasis will be placed both upon explication of artistic images and philosophical concepts.
Not offered 1979–80 — Mr. Anderson

220–250 SEMINARS IN PHILOSOPHY

Students will undertake advanced studies of topics of central importance to philosophy. Offerings vary each year, but the following are typical and usually repeated. Prerequisite: two full courses in philosophy, including at least one advanced course. A complete list of offerings for 1979–80 is available in the department office.

220	Plato	Mr. Anderson
221	Aristotle	Mr. Derr
222	Philosophy of the Mind	Mr. Overvold
223	Hegel	Mr. Beck, Mr. Wright
224	Social Philosophy	Mr. Beck
225	Philosophy of Religion	Staff
226	Philosophy of Mathematics	Staff
227	Phenomenology	Mr. Overvold
228	Phil. of Social Science	Mr. Overvold, Mr. Derr

229	Kierkegaard	Mr. Overvold
230	Kant	Staff
231	Action Theory	Mr. Derr
232	Hermeneutics	Staff
233	Aquinas	Mr. Derr
234	Heidegger	Mr. Overvold
235	Cassirer	Staff
236	The Critique of Pure Reason	Mr. Beck

258 SELF, SYMBOL, AND VALUE

Students engage in an exploration of the self and its transformations from the perspectives of philosophy, literature, and the social sciences. The course examines such issues as the attainment and dissolution of personal identity, the role of language in the formation of the self, selfhood and sexuality, the self in relation to fantasy and imagination, the self and its social context. The course is listed for credit as Comparative Literature 258, Philosophy 258, and Psychology 258.

Not offered 1979–80 Mr. Kaplan, Ms. Kaufmann-McCall, Mr. Wright

272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This study is conducted primarily as a senior seminar in which comparative literature, geography, and philosophy provide integrated perspectives on the city. American and European models of classical and contemporary cities are used to analyze the historical, geographic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City. The course is listed for credit as Comparative Literature 272, Geography 272, Philosophy 272, and Spanish 272.

Not offered 1979–80 Mr. Anderson, Mr. Bowden, Mr. D'Lugo

290 PHILOSOPHY OF EDUCATION

This course examines the aims, processes, and materials of education, with special reference to the influence of philosophical ideas on educational problems. The course also is listed for credit as Education 290.

Semester 1 Mr. Beck

299 SENIOR THESIS

Students will engage in advanced individual study of a philosophical problem. Normally this is a one-year program involving two full courses. Prerequisites: (1) permission of the department, usually granted only to majors having a minimum academic record of B+ in the major and B overall; (2) prior completion of at least five full courses in philosophy, including two courses at Level III; and (3) submission and approval of a thesis proposal. This proposal must describe the nature and scope of the projected work, include a bibliography of the anticipated principal sources, indicate why the proposed work is primarily philosophical, and be approved by the department and by the student's thesis adviser. If accepted, the proposal becomes a major criterion against which the completed thesis is judged. All prerequisites must be fulfilled before registration for thesis work: in practice, this means no later than spring of the junior year. Upon the student's completion of the thesis, the department will schedule an oral defense. (Note that successful completion of the thesis is a necessary but not a sufficient condition for departmental honors in philosophy—see above.) Offered for variable credit.

Semesters 1, 2 Staff

299.9 INTERNSHIP IN PHILOSOPHY
Offered for variable credit.
Semesters 1, 2 Staff

335 STUDIES IN AMERICAN INTELLECTUAL HISTORY
Independent studies, offered for variable credit. Also offered for credit as History 342.
Semesters 1, 2, Modular Term Mr. Beck

Physics

DEPARTMENT FACULTY

Roy S. Andersen, Ph.D., Professor of Physics, Department Chair
Christoph Hohenemser, Ph.D., Professor of Physics
John A. Davies, Ph.D., Associate Professor of Physics
Harvey Gould, Ph.D., Associate Professor of Physics
Roger P. Kohin, Ph.D., Associate Professor of Physics
Albert M. Gottlieb, Ph.D., Assistant Professor of Physics and Adjunct Assistant Professor of Chemistry
Gary S. Collins, Ph.D., Instructor and Research Associate in Physics
Madhoo Kanal, Ph.D., Research Professor of Physics
Peter Magnante, Ph.D., Associate Professor of Physics (part-time)
Edward L. O'Neill, Ph.D., Professor of Physics (Affiliate)
John Wild, Ph.D., Associate Professor of Physics (Affiliate)

The Curriculum

The academic program of the Department of Physics provides opportunities for study and experimental investigation of the basic principles that are fundamental in all science and have led to profound scientific, philosophical, and technological developments in the twentieth century. The department's offerings range from courses that are accessible to students with no previous training in science and little mathematical sophistication to courses at the research frontiers addressing topics of current importance to the research physicist. Laboratories in electronics, optics, alternate energy systems, and instrumentation provide opportunities for students to become familiar with experimental techniques. Physics majors may choose one of several areas of specialization, which, together with the core curriculum, leads to the bachelor of arts degree. Undergraduate physics majors are encouraged to work closely with the faculty in research projects at the earliest possible stage of their studies. Graduate students can undertake programs leading to the M.A. and Ph.D. Format courses (excluding reading courses and special topics) fall into six categories, as described below:

1) *Courses for Nonscientists*

These courses are designed to impart a degree of literacy in the physical sciences, acquaint students with the nature of scientific inquiry, and help students understand the impact of science in the contemporary world. The courses are suitable for students with little mathematical background and require limited use of high school level geometry and algebra. Included are Astronomy 1 and 2, and Physics 2 and 101.

2) *Introductory Courses for Science Students*

Prospective science majors are encouraged to study some physics in their freshman or sophomore years because all contemporary sciences rely heavily on basic physical principles. The first year courses, Introductory Physics or Classical Physics, together with a laboratory course, fulfill the minimum physics requirement for biology and chemistry majors and students in the premedical/predental program and give the foundation for all students planning to do advanced work in physics or in a discipline requiring a physics background. Second-year courses, Quantum Physics and Statistical and Thermal Physics, continue the introductory sequence and are prerequisites to the more advanced courses.

3) *Laboratory Courses*

These courses in experimental physics range from the introductory level to the beginning graduate level. The Introductory Laboratory, Physics 19, fulfills the minimum laboratory requirement of the biology, chemistry, and premedical/predental programs, but students are encouraged to substitute Physics 118, Optical Projects Laboratory, Physics 119, Electronics, Physics 132, Alternate Energy Systems Laboratory, or Physics 128, Biological Physics, for this requirement. More advance laboratory work is available in Physics 129 and 229 and in special projects.

4) *Advanced Undergraduate Courses*

These courses provide an extensive physics background, continue the sequence for physics, and prepare students for independent work for graduate studies or for a career in physics or related fields. Intermediate-level courses include Electricity and Magnetism and Atomic and Nuclear Physics; more advanced courses include Classical Dynamics, Classical Electrodynamics, Quantum Mechanics, and Statistical Mechanics. Courses at the 200-level usually are not open to students until they have completed the physics core curriculum.

5) *Basic Graduate Courses*

These courses form the background for research in all areas of physics and are required for doctoral candidates. The basic graduate courses are Physics 301, 302, 303, 305, 309, and 310.

6) *Specialized Graduate Courses*

These courses extend the basic graduate courses to the research frontier and are numbered 311 or higher. Students specializing in particular areas may choose those courses relevant to their interests. The courses are given as student demand warrants.

The Undergraduate Major

Undergraduate physics majors may choose from any one of five program areas of study: (1) general physics, (2) experimental physics, (3) mathematical physics, (4) biophysics, and (5) technology assessment. Each program consists of a common core curriculum, normally to be completed by the end of the sophomore year, and an area curriculum which defines each student's specialization. The area curriculum is designed to give students depth in their field of specialization and also to give a perspective on the relation of physics to other fields of knowledge.

I. *Core Curriculum*

This curriculum consists of a two-year survey of classical, quantum, and statistical physics with the associated laboratories and two years of mathematics. Physics majors normally are expected to complete this curriculum in their sophomore year. The core curriculum consists of the following courses:

		Units
1)	Introductory Physics, Physics 11, or Classical Physics, Physics 12	2
2)	Calculus, Mathematics 120 and 121	2
3)	Electronics, Physics 119, and Instrumentation Laboratory, Physics 129	2
4)	Quantum Physics, Physics 113 or 114	1
5)	Statistical and Thermal Physics, Physics 123 or 124	1
6)	Intermediate Calculus, Mathematics 130	2
	Total	10

Students with a strong background in physics and mathematics may replace any required courses with appropriate more advanced courses, with the approval of the departmental undergraduate adviser. Students do not receive credit for courses skipped but may count them toward the major requirement. The selection of Physics 11 or 12 should be done in consultation with the departmental undergraduate adviser.

II. *Area Curricula*

Majors must choose from one of the five program areas prior to the beginning of their senior year. The rationale and requirements of the five area programs are as follows:

1) *General Physics:* This program is designed for the student who wishes to major in physics as part of a general liberal arts education and who does not wish to do graduate study or research in physics or the other basic sciences. The program provides maximum freedom of choice and is an excellent preparation for professional schools, business, and elementary teaching.

Required		Units
a.	Physics Core	10
b.	Physics 131 and 132 or Physics 164 and 174	2
c.	Mathematics above Mathematics 130	2
d.	Chemistry	2
e.	Related areas: six courses in computer science, science education, history of science, philosophy of science, science, technology and society, or other areas approved by the undergraduate physics adviser	6
	Total	22

2) *Experimental Physics:* This program is designed for students who may wish to pursue graduate study in physics or a closely related area. A principal feature of the program is the requirement of a two-semester experimental research project.

Required		Units
a.	Physics Core	10
b.	Physics 164 and 174	2
c.	Physics 231	2
d.	Mathematics above Mathematics 130	2
e.	Chemistry	2
f.	Related areas: four courses in computer science, history of science, philosophy of science, biology, science, technology and society, or other areas approved by the undergraduate adviser	4
	Total	22

3) *Mathematical Physics.* This program is designed for students who wish to pursue graduate study in physics or a related area. A principal

feature of the program is the requirement of considerable course work in mathematics and logic.

Required	Units
a. Physics Core	10
b. Physics 164 and 174	2
c. Physics 201 or 205	2
d. Mathematics above Mathematics 130 (algebra, complex variables, differential equations, and modern analysis, or applied mathematics)	4
e. Philosophy of science and logic	2
f. Related areas: chemistry, computer science, biology, and science, technology and society, or other areas approved by the undergraduate adviser	2
Total	22

4) *Biophysics:* This program is intended for students who wish to obtain a strong background in the physical sciences as preparation for medical school or graduate-level work in the life sciences.

Required	Units
a. Physics Core	10
b. Physics 164 or 174	1
c. Topics in Biophysics, Physics 240	1
d. Chemistry: inorganic, organic, and physical	5
e. Biology	4
f. Biochemistry	1
Total	22

5) *Technology Assessment:* This program is designed to provide students with a sound basis for conducting physical, economic, and value assessments of selected technological systems. The goals of the major are similar to the major in Science, Technology and Society, but feature more extensive work in physical science.

Required	Units
a. Physics Core	10
b. Physics 131 and 132 or Physics 164 and 174	2
c. Mathematics beyond Mathematics 130	1
d. Related science: chemistry or biology	2
e. science, technology and society	
f. Related areas: four courses in economics, geography, government, philosophy, or other areas approved by the undergraduate adviser	4
Total	22

Undergraduate Honors

A qualified undergraduate in any of the major options is encouraged to participate in the physics honors program. During the junior and senior years, honors students conduct an experimental or theoretical research project under the guidance of a faculty member. This work is submitted to the department as an honors thesis. Recommendation for a degree with honors in physics is determined by the quality of each thesis and the performance of students in an oral defense of their thesis. An honors candidate must maintain an average of B- in physics, chemistry, and mathematics courses. Students may gain credit for honors work by registering for Physics 231, 232, or 233.

Additional information on the research interests of the faculty, research facilities, titles of recent undergraduate research projects, and the present activities of recent Clark physics graduates is given in a brochure entitled "The Undergraduate Program in Physics at Clark University," which is available from the department chairman.

Graduate Program

The Department of Physics offers the master of arts and doctor of philosophy degrees in physics, and jointly with the Department of chemistry, a Ph.D. in chemical physics. Departmental research is concentrated in the experimental and theoretical study of condensed matter, with an emphasis on phase transitions. Other research areas represented in the department are radiation damage studies, technology assessment, applied physics, and biophysics.

The academic aspects of the graduate programs in physics are flexible and innovative in nature, with an emphasis on close student-faculty contact, informal student evaluation, and early participation in research.

Beginning graduate students are required to take a placement examination, which tests their knowledge of undergraduate physics. A student failing this examination may be required to take a remedial program before entering fully into the graduate program and may be asked to fulfill the requirements of the M.A. before proceeding to the Ph.D.

To receive the M.A. degree, students must satisfy the general University residence and course requirements, pass with a grade of B- or better four units of the basic graduate courses—Physics 301, 302, 305, 309, and 310—one unit of Physics 303, and pass two oral examinations in the subject matter of the basic graduate courses. In contrast to many M.A. physics programs at other universities, students must also complete a thesis based on original research.

To receive the Ph.D., students must, in addition to the University residence and course requirements, pass with a grade of B or better, the basic graduate courses Physics 301, 302, 305, 309, and 310 and two units of Physics 303. To qualify for Ph.D. research, students must pass four oral examinations in the subject matter of the basic graduate courses. Students must also pass at least one graduate course in a subject other than physics, demonstrate literacy in a foreign language and computer programming, and complete a dissertation based on original research. Students entering with advanced standing and transferable credit are encouraged to demonstrate their proficiency in core graduation courses through examination.

Graduate students in both the M.A. and Ph.D. programs are required to obtain supervised teaching experience either as teaching assistants or teaching fellows in the department or elsewhere, if approved by the department.

Those interested in further information on the research interests of the faculty and research opportunities for graduate students in the department should request the brochure "The Graduate Program and Research in Physics at Clark." Additional information on graduate requirements and their timing is available in the "Physics Graduate Student Handbook." Copies of both are available from the department chairman.

Application forms for admission and financial aid may be requested from the department chairman. During the academic year, support is available in the form of tuition remission, teaching assistantships and research assistantships. The department considers the financial support of its graduate students an important responsibility.

COURSES

1. EINSTEIN AND HIS IDEAS

This course introduces students with no special preparation or competence in mathematics and science to the contributions of Einstein to contemporary ideas in physics. Much of the course will be devoted to a systematic development of Einstein's special theory of relativity and its profound implications for our conception of space and time. The remainder of the course will introduce Einstein's general theory of relativity in which the effects of gravity are described in terms of the curvature of space, the contribution of the general theory to our understanding of the nature of the universe, Einstein's role in the development of quantum mechanics, and his involvement in political and humanitarian causes. Throughout the course we will seek to gain insight into Einstein as a person and into the nature of the creative process.

Semester 2 Mr. Gould

2 THE PHYSICS OF EVERYDAY EXPERIENCE

This is an introduction to the basic physical concepts necessary for a fundamental understanding of our everyday observations of the physical world and the nature of discovering, reasoning, and concept-formation in the physical sciences. Topics will include the physics of hearing and seeing, matter in motion, heat, electricity and magnetism, the nature of matter, and a study of man's place in the physical universe. The course is directed towards the nonscientifically oriented student. Although recent advances in science and technology are discussed, the emphasis in Physics 2 is on an understanding of everyday experience. There are three lectures per week plus an open, informal laboratory. Offered in alternate years.

Not offered 1979–80 Mr. Gottlieb

11 INTRODUCTORY PHYSICS

This is a problem-oriented course for both science majors and for the general student desiring a survey of physics. The course stresses the simplicity and self-consistency of physical models and mathematical laws in explaining a variety of phenomena. Topics include Newtonian and relativistic mechanics, thermal physics, electromagnetism, basic electrical circuit theory, optics, quantum physics, and nuclear physics. Calculus is not a prerequisite or corequisite, although some of its concepts are developed as part of the course. Together with the Physics 19, Introductory Laboratory, Physics 11 satisfies the requirement for majors in biology, chemistry, and science, technology and society. It also satisfies requirements for students in the premedical/predental program. The course may be selected by physics majors desiring a less mathematically rigorous introduction to the subject than that of Physics 12, and it satisfies the prerequisite for advanced courses in physics. There are three lectures plus a discussion hour per week. Two sections of the course are offered, with one section restricted to freshmen and sophomore students. A full year course.

Semesters 1 and 2 Mr. Davies, Mr. Kohin

12 CLASSICAL PHYSICS

This is an introductory survey of classical physics for science majors and others who require a mathematically complete approach to the material and who expect to continue their study of physics beyond the introductory

year. Problem solving is emphasized, and independent work by students is expected. There are three lectures and one tutorial per week for two course credits. Credit for both Physics 11 and 12 is not granted. Prerequisite: permission of instructor and departmental undergraduate adviser. A full year course.
Semesters 1 and 2 Mr. Collins, Mr. Andersen

19 INTRODUCTORY LABORATORY

This is a laboratory course designed to accompany Physics 11 or 12. Emphasis is on physical measurements and techniques and on the ideas of applied mathematics needed to interpret experimental results. There is one meeting per week; one half course credit for the year. Students who are required to register for this course to satisfy departmental or program requirements do not pay extra tuition if concurrently registered for Physics 11 or 12.
Semesters 1, 2 Mr. Kohin

101 PARTICLE PHYSICS

This is an honors physics seminar and laboratory for nonscience students. A fundamental problem in physics during the past 40 years has been to combine the ideas of relativity and quantum mechanics to give a satisfying picture of the nature of matter. The problem has not been solved; however, much progress has been made. Experiments have identified a surprising number of new kinds of properties of particles, and recent theories have clarified the relationship between these particles. The course will present some of the key developments in a form accessible to students with limited scientific and mathematical backgrounds. The following topics will be treated: introduction to quantum mechanics and special relativity, classification of presently known particles and their interaction, description of some current experiments and their results. An integral part of the course will be a series of laboratory experiments on the important properties of elementary particles. Prerequisite: permission of instructor.
Semester 1 Mr. Hohenemser

113 QUANTUM PHYSICS

This is a third semester introductory course in physics to follow either Physics 11 or 12. This course introduces the concepts of quantum physics with applications to the microscopic world. The philosophical implications of the theory are discussed. This course is appropriate for biology, philosophy, and S.T.S. majors as well as for physics and chemistry majors. Prerequisites: Physics 11 or 12 and Mathematics 121 or permission of instructor.
Semester 1 Mr. Gottlieb

114 QUANTUM PHYSICS TUTORIAL

This course continues the two-year introductory sequence in physics for science majors and follows Physics 12. The material covered is identical to that in Physics 113 but is amplified by weekly tutorials. Students must be prepared to work independently. Credit for both Physics 113 and 114 is not granted. Prerequisite: Physics 12; corequisite: Mathematics 130.
Semester 1 Mr. Gottlieb

118 OPTICAL PROJECTS LABORATORY

This is an introductory laboratory covering the principles, applications,

and techniques of modern optics. Projects will treat imaging and photographic techniques, basic optical instruments including the microscope, lasers and holograms, optical communication using fiber optics, and light interactions with matter. The course is of interest to biology, geography, premedical/predental, and psychology majors, as well as to physics and chemistry majors. The course may replace Physics 19 in fulfilling departmental requirements for biology, chemistry, and premedical students. There are one tutorial session and two laboratories per week. Prerequisite: at least one semester of Physics 11 or 12.
Semester 2 Mr. Kohin, Mr. Magnante

119 ELECTRONICS LABORATORY

This is an introductory laboratory course in electronics, the goal of which is to build and understand several simple circuits using discrete, as well as integrated, solid state elements. The course will begin with the fundamentals of DC and AC circuit theory and the use of basic test instruments such as the oscilloscope. Special emphasis will be given to operational amplifier techniques. The course may replace Physics 19 as an introductory laboratory for Biology, Chemistry, and premedical/predental students. There are two lectures and one laboratory per week. No prerequisites other than algebra.
Semester 1 Mr. Gottlieb

123 STATISTICAL AND THERMAL PHYSICS

This is an introduction to the concepts of statistical and thermal physics including statistical mechanics, thermodynamics, and kinetic theory. The course includes an introduction to the laws of thermodynamics and their basis in atomic theory. Much of the course will be practical in nature and stress application in such areas as energy-related problems. The course should be appropriate for majors in S.T.S., biology, physics, mathematics, and chemistry, as well as students in other areas who have an appropriate mathematics background. Prerequisite: Physics 11 or equivalent; corequisite: Mathematics 130.
Semester 2 Mr. Davies

124 STATISTICAL AND THERMAL PHYSICS TUTORIAL

This course treats the same topics as Physics 123 but is more mathematical in nature. Additional applications are made to problems in physics and chemistry. Much of the subject matter is conducted in tutorials. The student should be prepared to work independently. Prerequisite: Physics 12; corequisite: Mathematics 130. Credit for both Physics 123 and 124 is not granted.
Semester 2 Mr. Davies

128 BIOLOGICAL PHYSICS LABORATORY

This is a laboratory course designed to introduce students in biology or in the premedical/predental program to the physical principles underlying biological systems. Students will become familiar with the instrumentation, analysis, and reporting of experiments on a range of biological phenomena. Experiments will utilize mechanical, thermal, electronic, optical, and nuclear techniques. The computer will be used to analyze data. The course satisfies the physics laboratory requirement. There are one lecture and one laboratory per week. Prerequisite: Physics 11 or 12. Offered in alternate years.
Semester 1 Mr. Andersen

129 INSTRUCTIONATION LABORATORY

This is an introduction to modern physical research instrumentation for students who have completed Physics 119. Emphasis is on measurement of the properties of the fundamental particles including protons, neutrons, electrons, and positrons as well as gamma ray photons. Departmental facilities such as the machine shop and electronics stockroom are available. There is one tutorial and two laboratory sessions per week. Prerequisites: Physics 119 and 113.
Semester 2 Mr. Collins

131 SOLAR ENERGY

Refer to S.T.S. 131.
Semester 1 Mr. Davies

132 ALTERNATIVE ENERGY SYSTEMS LABORATORY

Refer to S.T.S. 132.
Semester 2 Mr. Gottlieb

164 ELECTRICITY AND MAGNETISM

This is an intermediate level course dealing with the electromagnetic field. This course develops the phenomenology and theories leading to the formulation of Maxwell's equations. Scalar and vector potential theory, the elements of radiation dynamics, and relativistic covariance are discussed. Prerequisite: Physics 11 or 12.
Semester 1 Mr. Kohin

174 ATOMIC AND NUCLEAR PHYSICS

This is an intermediate level course introducing elementary quantum mechanics and emphasizing the applications of the theory to atomic, nuclear, molecular, and particle physics. Prerequisites: Physics 113 or 114 and Mathematics 130.
Semester 2 Mr. Gottlieb

188 INDEPENDENT PROJECTS

This is an independent study on topics in experimental or theoretical physics directed by a faculty sponsor. Offered for variable credit.
Semesters 1, 2 Staff

201 CLASSICAL DYNAMICS

This is a course designed to prepare the physics major for graduate work in physics. Topics covered include Hamilton's principle, classical scattering theory, rigid body motion, canonical transformations, Hamilton-Jacobi theory, and mathematical methods of physics. The lectures are the same as in Physics 301, but evaluation is separate. Prerequisite: Physics 174.
Semester 1 Mr. Wild

202 CLASSICAL ELECTRODYNAMICS

This is a course designed to prepare the physics major for graduate work in physics. Topics covered include boundary value problems in electrostatics and magnetostatics, the electromagnetic field equations and special relativity, electromagnetic waves, radiation theory, multipole fields, and mathematical methods in physics. The lectures are the same as Physics 302, but evaluation is separate.
Semester 2 Staff

205 QUANTUM MECHANICS

This is a course designed to prepare the physics major for graduate work in physics. The mathematical framework of quantum mechanics is covered. The lectures are the same as in Physics 305, but evaluation is separate. Prerequisites: Physics 174 and Mathematics 130. A full year course.

Semesters 1, 2 Mr. Gould

209 STATISTICAL MECHANICS

This is a course designed to prepare the physics major for graduate work in physics. Lectures are the same as in Physics 309, but evaluation is separate. Prerequisites: Physics 174 and 123 or 124.

Not offered 1979–80 Staff

229 PHYSICAL INSTRUMENTATION LABORATORY

This is an introduction to modern physical research instrumentation. The course deals with the advanced interpretation of physical measurements in modern physics and is the same as Physics 129, except that interpretation of experiments is at the advanced undergraduate or beginning graduate level. Undergraduates who have completed 129 may register for 229.

Semester 2 Mr. Collins

230 DIRECTED READINGS IN PHYSICS

These directed readings in physics will provide for special needs not covered in regular courses. Offered for variable credit.

Semesters 1, 2 Staff

231 SPECIAL PROJECTS IN EXPERIMENTAL PHYSICS

These are independent laboratory projects done under the guidance of a faculty adviser. Offered for variable credit.

Semesters 1, 2 Staff

232 SPECIAL PROJECTS IN THEORETICAL PHYSICS

These are independent projects in theoretical physics done under the guidance of a faculty member. Offered for variable credit.

Semesters 1, 2 Staff

233 SPECIAL PROJECTS IN APPLIED PHYSICS

These independent projects in applied physics are done under the guidance of a faculty adviser. Offered for variable credit.

Semesters 1, 2 Staff

240 TOPICS IN BIOPHYSICS

This is a course specifically designed for the senior physics major in the biophysics area program. The principles of biology, chemistry, and physics are applied to a variety of biological phenomena.

Semester 2 Mr. Andersen

301 CLASSICAL DYNAMICS

This is a graduate-level course in classical mechanics. The topics covered are similar to Physics 201 but are treated in greater depth.

Semester 1 Mr. Wild

302 CLASSICAL ELECTRODYNAMICS

This is a graduate-level course in classical electromagnetic theory. The

topics covered are similar to Physics 202 but are treated in greater depth.
Semester 2 Staff

303 RESEARCH APPRENTICESHIP

An apprentice will have direct participation in the experimental and theoretical research groups of the department. The student spends 7 to 14 weeks working in a variety of research groups. Ph.D. students should enroll in the course for two semesters; M.A. students for one semester.
Semesters 1,2 Staff

305 QUANTUM MECHANICS

This is a comprehensive course in quantum mechanics. Topics include the Schrödinger equation and the general structure of wave mechanics, symmetries and angular momentum, potential scattering, perturbation theory, interaction of radiation with matter, spin, second quantization, and an introduction to relativistic quantum mechanics. A full year course.
Semesters 1, 2 Mr. Gould

309 STATISTICAL MECHANICS

This is a comprehensive course in statistical mechanics and kinetic theory. Topics treated included ensembles, principles of thermodynamics, classical equations of state for interacting classical fluids, Mayer cluster expansion, classical lattice models, the Fermi distribution and the ideal degenerate electron gas, the Bose distribution, the Debye theory of solids and the Bose-Einstein condensation, mean field theory of continuous phase transitions, and the Boltzmann equation.
Not offered 1979–80 Staff

310 SOLID STATE PHYSICS

This is an introduction to the quantum theory of solids. Topics covered include free electron theory of metals, crystal and reciprocal lattices, band structure and the Fermi surface, lattice dynamics, insulators, and semiconductors. Prerequisites: Physics 305 and 309.
Not offered 1979–80 Mr. Collins

311 ADVANCED QUANTUM MECHANICS

This course includes relativistic quantum mechanics, quantum electrodynamics, and the many-body problem. Prerequisite: Physics 305 or equivalent.
Not offered 1979-80 Mr. Gould

312 APPLICATIONS OF GROUP THEORY TO PHYSICS

This is a representation theory for finite groups. Applications to crystallographic point groups. Representations of continuous impact groups: the rotation group. The Wigner-Eckart theorem and selection rules. The permutation group and its application to the system of identical particles. Classification of states of a multi-electron atom.
Not offered 1979–80 Mr. Davies

314 THEORY OF MANY-PARTICLE SYSTEMS

The equilibrium and linear response properties of many-body systems are studied at zero and nonzero temperatures using memory function techniques and thermodynamic Green's functions. Applications are made to degenerate Fermi liquids, superfluid ^{4}He, and superconductivity.
Not offered 1979–80 Mr. Gould

315 CRITICAL PHENOMENA
This is a review of recent experimental results in magnetic, liquid-gas, and structural phase transitions. General behavior of continuous phase transitions, critical indices, scaling laws, and universality. Ginzburg-Landau-Wilson model, mean field approximation, renormalization group, perturbation expansions, real-space calculations, dynamic behavior, application of renormalization group to other problems are studied.
Not offered 1979–80 Mr. Gould, Mr. Hohenemser

317 SOLID STATE SPECTROSCOPY
This is a theoretical and experimental review of the physics of solids observed using spectroscopic methods.
Not offered 1979–80 Mr. Hohenemser

325 RESEARCH SEMINAR
This is a student participation seminar in current research problems. Offered for variable credit.
Semesters 1, 2 Staff

330 TOPICS IN EXPERIMENTAL PHYSICS
A specific topic in experimental physics is considered at the research level. Topics are selected on the basis of current interest. Offered for variable credit.
Semesters 1, 2 Staff

335 TOPICS IN THEORETICAL PHYSICS
A specific topic in theoretical physics is considered at the research level. Topics are selected on the basis of current interest. Offered for variable credit.
Semesters 1, 2 Staff

340 COLLOQUIUM
Weekly invited lecturers speak on research topics of current interest. Required for all graduate students.
Semesters 1, 2. Staff

350 RESEARCH
Thesis and dissertation preparation. Offered for variable credit.
Semesters 1, 2 Staff

The following courses are related to physics offerings and are recommended to students:

Astronomy 1 EXPLORING THE UNIVERSE
Refer to Astronomy 1.
Semester 1 Mr. Andersen

Astronomy 2 BLACK HOLES AND COSMOLOGY
Refer to Astronomy 2.
Not offered 1979–80 Mr. Andersen

Psychology

DEPARTMENT FACULTY

Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology, Department Chair
Mortimer H. Appley, Ph.D., Professor of Psychology, President of the University
Robert W. Baker, Ph.D., Professor of Psychology
Roger Bibace, Ph.D., Professor of Psychology
Tamara Dembo, Ph.D., Professor of Psychology, Emeritus
Joseph H. deRivera, Ph.D., Professor of Psychology
Bernard Kaplan, Ph.D., Professor of Psychology
Donald G. Stein, Ph.D., Professor of Psychology and Neurology
Ina C. Uzgiris, Ph.D., Professor of Psychology
Morton Wiener, Ph.D., Professor of Psychology*
Leonard E. Cirillo, Ph.D., Associate Professor of Psychology
William Damon, Ph.D., Associate Professor of Psychology*
Rachel Joffe Falmagne, Ph.D., Associate Professor of Psychology*
James D. Laird, Ph.D., Associate Professor of Psychology
David A. Stevens, Ph.D., Associate Professor of Psychology*
Nicholas S. Thompson, Ph.D., Associate Professor of Psychology and Ethology
Barbara M. Burns, Ph.D., Assistant Professor of Psychology
Joseph Schmuller, Ph.D., Assistant Professor of Psychology

*On leave 1979–80

ADJUNCT FACULTY

Edward E. Sampson, Ph.D., Professor of Sociology and Adjunct Professor of Psychology
David Zern, Ph.D., Associate Professor of Education and Adjunct Associate Professor of Psychology

AFFILIATED STAFF

D. Frank Benson, M.D., Professor of Psychology, Affiliate
Donald M. Broverman, Ph.D., Professor of Psychology, Affiliate
Nelson M. Butters, Ph.D., Professor of Psychology, Affiliate
H.J.O. Catlin, M.B., L.R.C.G.P., Professor of Psychology, Affiliate
Harold Goodglass, Ph.D., Professor of Psychology, Affiliate
Davis H. Howes, Ph.D., Professor of Psychology, Affiliate
Allan F. Mirsky, Ph.D., Professor of Psychology, Affiliate
William Vogel, Ph.D., Professor of Psychology, Affiliate
John Frey, M.D., Associate Professor of Psychology, Affiliate
Edith F. Kaplan, Ph.D., Associate Professor of Psychology, Affiliate
Robert O'Connell, Ph.D., Associate Professor of Psychology, Affiliate
Marlene Oscar-Berman, Ph.D., Associate Professor of Psychology, Affiliate
Edgar B. Zurif, Ph.D., Associate Professor of Psychology, Affiliate
Marilyn S. Albert, Ph.D., Assistant Professor of Psychology, Affiliate
Michael P. Alexander, M.D., Assistant Professor of Psychology, Affiliate
David Bear, M.D., Assistant Professor of Psychology, Affiliate
Carolyn Cotsonas, J.D., Assistant Professor of Psychology, Affiliate
Robert A. Ciottone, Ph.D., Assistant Professor of Psychology, Affiliate
David Finkel, Ph.D., Assistant Professor of Psychology, Affiliate
Howard Gardner, Ph.D., Assistant Professor of Psychology, Affiliate

Deborah S. Kellett, Ph.D., Assistant Professor of Psychology, Affiliate
Margaret Naeser, Ph.D., Assistant Professor of Psychology, Affiliate
Lawrence Peterson, Ph.D., Assistant Professor of Psychology, Affiliate
Shannon T. Devoe, Ph.D., Research Associate
Stanley Finger, Ph.D., Fellow, Heinz Werner Institute
Ogretta V. McNeil, Fellow, Heinz Werner Institute
Elizabeth Weiss Lang, Ph.D., Research Associate
Robert B. Shilkret, Ph.D., Research Associate
Mary Walsh, Ph.D., Clinical Associate

UNDERGRADUATE PROGRAM

The department has emphasized, in undergraduate courses and research, the same respect for scholarship as it has at the graduate level. The aims of the undergraduate program are: to promote respect for intellectual activity, to encourage an attitude of intelligent inquiry, and to highlight the implications of psychological knowledge for an understanding of everyday phenomena. The department offers educational experiences that will enhance the students' liberal arts background and prepare them for graduate work in psychology or related disciplines.

Course Numbers: The undergraduate course numbering system has been reorganized and simplified. Ranges of course numbers now have specific meanings according to the following key:

Range	*Meaning*
100–109	Courses all majors must take (General, Quantitative Methods)
110–149	Survey courses; psychology as a life science
150–189	Survey courses; psychology as a social science
199–199	Special freshman and sophomore courses
200–214	Laboratory courses
215–229	Research courses
230–234	More advanced courses; psychology as a life science
235–239	More advanced courses; psychology as a social science
240–259	Primarily junior and senior specialized seminars (may not be taken for graduate credit without special permission)
260–289	Primarily junior, senior, and graduate specialized seminars (may be taken for graduate credit without special permission)
290–299	Special courses (honors, directed readings, research)

Unless otherwise stated, Psychology 101 is a prerequisite to all other Psychology courses.

Major Requirements. The major in Psychology consists of psychology and related course requirements. The psychology requirements are designed to insure exposure to one of the most basic distinctions in contemporary psychology, that of psychology approached as a life or a social science: to insure some familiarity with experimental and observational methods (laboratory and praticum requirement), to provide background in essential quantitative skills (statistics requirement—Psychology 105), and to guarantee several contacts with faculty in advanced, small-enrollment seminars.

The related requirement of two minors reflects the conviction of the department that all academic areas are actually or potentially related to psychology, but also that scholarship involves, at some point, studying subject matter in considerable depth.

1. *Psychology Courses*

   Total of at least eight full-course equivalents, including:
   a. 101, General Psychology
   b. 105, Quantitative Methods
   c. One full-course equivalent from range 110–149 or 230–234 (Survey courses: psychology as a life science)
   d. One full-course equivalent from range 150–189 or 235-239 (Survey courses: psychology as a social science)
   e. Two-full course equivalents from range 200–229 (laboratory and research courses)
   f. Two full-course equivalents from range 240–289 (upper level seminars)

2. *Related Courses*

   Related courses are defined in terms of minors. A minor consists of at least four full-course equivalents in a single area or department. Two minors must be chosen from the following areas or departments:

   Biology
   Chemistry
   Engineering, Applied Math, or Computer Science
   Economics
   Education
   English
   Foreign Languages and Literatures (includes Linguistics)
   Geography
   Government and International Relations
   History
   Mathematics
   Philosophy
   Physics
   Science, Technology and Society
   Sociology
   Visual and Performing Arts

There are two restrictions on permissible course sequences within an area or department:

a. In the case where a department offers more than one introductory course, only the course or courses designed to prepare students for further work in the area may be taken for related credit. In most departments, this excludes introductory courses designed for nonmajors. Detailed information about this restriction may be obtained from the Department of Psychology.
b. The courses must form a coherent sequence or program within the context of the department in which a minor is taken. In most cases, this will be self-evident. However, in doubtful cases, the student must consult his or her psychology adviser and the department concerned.

The Honors Program. Honors work in psychology is available to seniors who have demonstrated high scholastic achievement and the ability to work independently in scholarly situations. Students may seek admission to the honors program by requesting the faculty member, under whose direction students intend to do research work, to submit their name to the full faculty for consideration. Students in the honors program carry out an independent empirical research project under the sponsorship of one or more faculty members. This research provides basis for a thesis, which, upon completion, is presented and defended by the students before an Examining Committee of faculty members. On the basis of the report of the

Examining Committee and the students' advisers for the project, the department may recommend to the College Board that the students be awarded departmental honors at one of the following levels: highest honors, high honors, or honors in Psychology.

DOCTORAL PROGRAM

General Requirements. The department admits to graduate work only those students who plan to enroll in the Ph.D. program on a full-time basis. The overall aim of the graduate program is to provide students with a general integrated background covering the various areas of psychology. Within these emphases there are several specialized programs available.

The lack of rigid boundaries between specialty areas and the lack of carefully specified curriculum sequences require, in students, a continuous process of self-definition regarding the form of their graduate training. An adviser is appointed for each student, and it is expected that student and adviser will regularly review the student's progress and plans. However, our experience clearly indicates that there are persons who have difficulty tolerating the ambiguities in this kind of situation, and applicants are urged to assess themselves carefully in relation to the personal demands of such a setting. While several different traditions and points of view toward the study of psychology are represented in our department, including the behaviorist-learning orientation that is characteristic of many American universities, there is a basic emphasis at Clark on the organismic-developmental approach (e.g., Heinz Werner, Jean Piaget). This emphasis does not in any way prevent the free and open expression or espousal of other points of view, but it does provide a distinctive theoretical coloring that is somewhat unusual in American psychology. In all the department's programs, including clinical and rehabilitation psychology, there is a primary concern with theory, conceptual analysis, and research. Participation in research is strongly encouraged all through the graduate experience, and the nature of the research is determined primarily by a common interest of each student with that of a faculty member. The student is expected to contribute significantly to the conceptualization, design, execution, analysis, and writing-up of the work.

Course work. Students ordinarily are expected to take four courses in each semester for their first two years, including in their first year Problem, Theory, and Method in Psychology (301) and Statistical Methods (302). In subsequent years, students continue to enroll in a full program which ordinarily includes two or three content courses, research and reading courses, etc. A total of at least 18 one-semester courses are required for admission to candidacy for the Ph.D., of which at least two must be from among a group including personality, social, developmental, phenomenological, and cognition, and at least two must be from among the group including physiological psychology, learning, perception, and animal behavior.

To provide a basis for evaluation of students' progress early in their careers, all students are required to write two papers (or equivalent) during each of their first four semesters, except that they need not write such papers during the semester in which they complete their M.A. thesis. Papers may be required by instructors in all or none of a student's courses. In the latter case, the student is required to submit papers in a minimum of two courses. Early in the semester, before writing the paper, the student should discuss the proposed content with the instructor. In some cases, the instructor may substitute some other "evaluatable performance" (e.g., an examination) for a paper. Note that it is the student's responsibility to ensure that the instructors in at least two of his/her courses understand that she/he intends to submit these papers to them. It is the instructor's responsibility to define what constitutes an adequate fulfillment of this requirement. The student is also responsible for informing the department office, before the end of the semester, what papers will be submitted and which instructor will evaluate those papers. If students have any questions they should consult the instructor or their general adviser.

Teaching apprenticeship program. All students are expected to become involved in teaching as apprentices. Since many students ultimately become college and university teachers, acquaintance with the demands and techniques of teaching over a range of courses is considered an important part of their graduate training. Ordinarily, a student might spend an average of 10 hours a week in an apprenticeship.

Qualifying examination in quantitative methods. All students are required to demonstrate competence in quantitative methods by satisfactory performance on a qualifying examination in that area. The examination is normally taken at the end of the student's first year, at the completion of the course in quantitative methods.

M.A. degree. The M.A. degree is awarded after satisfactory completion of at least eight one-semester courses or their equivalent, the departmental paper requirement, an M.A. thesis based on the collection and analysis of data, and an oral examination on the thesis. The requirements for the M.A. degree are to be completed within the first two years of graduate work and students who have not completed their M.A. degree by that time will not be permitted to enroll for the third year. A student not completing the M.A. by the end of the third year ordinarily will not be permitted to go on for the Ph.D., but will be given ample opportunity to complete the M.A. degree.

Major paper and oral examination. This paper is expected to demonstrate the student's mastery of the research and theory of his/her area of specialization. An oral examination of this material will also be held shortly after the paper has been submitted. The major paper is normally to be done within one year of completing the M.A. The student takes Directed Readings with a faculty member during the second semester of that year. If the paper is not finished on time, the faculty selects some of its members to help the student formulate a plan to finish it during the summer. If a student has still not completed the paper, she/he is not permitted to enroll for the following year so that he/she may complete this requirement.

Admission to Ph.D. candidacy: Satisfactory completion of at least 18 one-semester content courses (including 301 and 302), as well as the above requirements, is necessary for admission to candidacy for the Ph.D. degree. All the requirements for Ph.D. candidacy, including the major paper, must be met within two years of completing the M.A. A student who does not do so ordinarily will be dropped from the Ph.D. program

Ph.D. dissertation: The student demonstrates the ability to conduct independent research (under the supervision of a dissertation committee) by the presentation of an acceptable dissertation.

Ph.D. oral examination: Following submission of the dissertation to the department, a final oral examination is held in which the student presents and defends his/her dissertation and shows competence in a general field of psychology as well as in his/her area of specialization.

These guidelines result in an upper limit of six years for completion of the Ph.D. (excluding an internship year or official leave). An additional year may also be granted by faculty approval of a petition on other grounds such as part-time study because of financial necessity. Those desiring more detail on graduate requirements and their timing should request a copy of "Information on the Graduate Program in Psychology."

Training Program in Clinical Psychology. The Clinical Psychology Training Program, which aims to provide students with competence in Clinical Psychology as an integral part of their scholarly pursuits, requires, in addition to the other usual departmental requirements, the satisfactory completion of the Clinical Methods sequence, participation in the Psychological Services Center, and completion of a year's internship in an agency approved by the department. Proficiency in Clinical Psychology is assessed through periodic review of the students' clinical work; on occasion, special examination may be required.

The goal of the Clinical Training Program is to train clinically competent psychologists who are oriented toward scholarly activity, including empirical inquiry, in whatever settings and with whatever populations they may work. At Clark, clinical students, like all other graduate students, are required to demonstrate mastery of general theoretical principles and methodologies in psychology. Within the clinical program, there are special opportunities for training:

a) child clinical
b) human neuropsychology (in association with the Boston V. A. Aphasia Unit)
c) family interactions (in association with the Department of Family and Community Medicine, University of Massachusetts Medical School)

The Psychological Services Center was established in 1950 to train doctoral candidates in clinical psychology and to offer diagnostic and therapeutic services to the Clark community. Graduate students in the clinical training program participate under close supervision for four years, receiving training in psychological testing, therapy, and diagnostic interviewing. For further information, write to director, Clinical Training Program.

Developmental Psychology Program: This program is designed to prepare students for a career in research, teaching, and scholarly activity in developmental psychology. The goals are to impart to students competence in the variety of methods, techniques, and formats of conceptualization involved in the analysis of psychological development. Guided by those general aims, the developmental program provides in-depth training in special content areas, such as child and infant development, perceptual development, language development, moral development, developmental psychopathology, etc. There is a nursery school associated with the University. There also is a recently constructed laboratory which provides facilities for both empirical and clinical research with children. For further information, write to the director of the program, Dr. Bernard Kaplan.

Social Psychology Program: Perhaps the most important feature of the social-personality program at Clark is its emphasis on the description and analysis of social *experience*. While the department is also interested in how persons behave, we have a concern for experience in its own right. We want to know how and what persons feel, think, and value, as well as how they behave. Consequently, those of us who are most directly involved in the program have developed research strategies that tap into the experiences of everyday life. Conventional experimental work in areas such as verbal and nonverbal communication, socialization, attribution processes, self-concepts, and interpersonal relations is going on in the department. Less traditional emphases include the study of phenomenology of social processes and the ethological and genetic approaches to understanding social behavior. Uniting these diverse activities is a common concern with the theoretical and metatheoretical structures that may enable us to understand social phenomena and the philosophical bases for these conceptualizations. For further information, write to the director of the program, Dr. Joseph deRivera.

Experimental Psychology Program: Training is offered in the general areas of perception, cognitive psychology, and animal and human learning, according to a flexible sequence of courses and seminars covering the theoretical foundations, content, and methodology of these areas as well as specialized topics. The typical orientation in teaching and research is an integrative one, preserving and exploring the connections between these traditionally defined areas and other areas of psychology (developmental, ethology, phenomenology, etc.). The emphasis of the program is on the acquisition of both theoretical and empirical skills. Towards this end, specialized seminars are offered in or around the areas of special interest of various faculty members: participation in ongoing research projects is encouraged, as is research generated by students' interests. In teaching and research, the experimental faculty aims at preserving the continuity with both the mainstream of ongoing psychology research and the values and perspective traditional to Clark, which emphasize conceptual sophistication and theoretical relevance and discourage narrow-sightedness. The research areas currently represented in the department include thinking, reasoning, psycholinguistics, human learning and memory, cerebral hemispheric effects and linguistic information processing, animal discrimination learning and motivation, infant learning and perception, environmental perception and cognition, perceptual and aesthetic development, logical and language development, and verbal and nonverbal communication. For further information write to: Dr. Rachel Joffe Falmagne.

Psychobiology Training Program: The program in psychobiology has two major foci: physiological psychology and animal behavior. Regardless of area, students are encouraged to begin research as soon as possible after acquiring an understanding of the theoretical basis of an area and the implications of the work. Although the training is often intensive, emphasis is on a close working relationship among faculty, graduate students, and undergraduates. There are many opportunities for collaboration on major research projects including studies on: behavioral recovery from brain damage, psychobiology of aging, effects of drugs and hormones on central nervous system development and neuroplasticity. The laboratory facilities are excellent and include a major new installation for neuroanatomical investigation at the University of Massachusetts Medical Center. Through the Consortium, and with permission, students may enroll in courses offered at cooperating institutions including University of Massachusetts Medical Center. For more information on training in physiological psychology, write to Dr. Donald G. Stein; for more information on animal behavior, write to Dr. David A. Stevens.

Rehabilitation Research Training: In conjunction with all other areas of specialization, rehabilitation research training is available. This training is designed to prepare students for investigations of psychological problems as they occur in everyday life. Emphasis on the development of novel techniques and concepts is the main feature of the training. An integral part of the training is an apprenticeship-practicum during which the various phases of research in real-life settings are examined under the guidance of a staff member. This training is especially pertinent to those who are interested in social-emotional and value problems of handicapped and nonhandicapped people. For further information, write to Dr. Tamara Dembo.

Interdisciplinary work: The department recognizes the interest of some students to undertake study and research which cuts across disciplines or areas that now exist. Interdisciplinary activity by students is feasible at Clark inasmuch as some members of the Psychology faculty are now, or recently have been, engaged in activities with faculty of other departments.

Applicants for graduate study in psychology, who are interested in securing more detailed information concerning the department and its programs, are urged to write to the department for a brochure, "Information on the Graduate Program in Psychology."

POSTDOCTORAL PROGRAM

The Psychology Department and the Heinz Werner Institute also have a postdoctoral program for training in Developmental Psychology. In addition to individually oriented research and training opportunities, the developmental faculty offers a seminar for postdoctoral students. Interested postdoctorals should apply to Dr. Bernard Kaplan, program director.

THE HEINZ WERNER INSTITUTE OF DEVELOPMENTAL PSYCHOLOGY

Associated with the department is the Heinz Werner Institute of Developmental Psychology, which has three aims: first, to integrate various research programs dealing with developmental problems; second, to bring to Clark University scholars, teachers, and research workers from disciplines for which developmental problems are pertinent such as anthropology, biology, and certain areas of medicine; third, to train research workers on postdoctoral levels in the comparative-developmental approach to behavior. Information regarding postdoctoral work at the Institute may be obtained by writing to Dr. Bernard Kaplan.

COURSES

101 GENERAL PSYCHOLOGY

Introduction to the principles of human behavior. No prerequisite. Unless otherwise noted, this course is a prerequisite to all other psychology offerings.

Semester 1, 2 — Mr. Wapner

105 QUANTITATIVE METHODS

The theory of experimental inference and the logic of experimental design is studied.

Semester 1 — Staff
Semester 2 — Mr. Schmuller

130 PSYCHOLOGY OF LEARNING

Methods and findings in the study of learning are discussed, with emphasis on their relation to theories of learning. Selected controversial issues are examined.

Semester 2 — Staff

140 SENSATION AND PERCEPTION

This is an introductory course that includes exposure to the basic concepts of sensory physiology and sensory processes. Emphasis is on auditory and visual perception, but all six major senses are considered. The course is

aimed at providing a solid background in this, the oldest area of experimental psychology, but also deals with such topics as the relation between perception and aesthetics (both of the everyday and concert-hall variety), and the development and subsequent degeneration of sensory and perceptual capabilities that occur between birth and death.
Semester 1 Ms. Burns

150 INTRODUCTION TO CHILD PSYCHOLOGY

The development of intellectual and social functioning in the child will be discussed. Theoretical approaches to conceptualizing change in the developing child will be emphasized: psychoanalytic, Piagetian, and behavioristic approaches will be contrasted.
Semester 1 Ms. Uzgiris

162 PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR

Psychoanalytic contribution to the understanding of human behavior and conflicts will be studied. The class is limited to 40 students. Prerequisite: permission of instructor.
Semesters 1, 2 Mr. Bibace

169 THE PSYCHOLOGY OF LOVE AND HATE

This is an examination of how the emotions of love and hate are manifested in infancy, childhood, adult life, and in social-collective phenomena. The course will deal with related emotions such as envy, greed, jealousy, despair, etc. Prerequisite: permission of instructor.
Semester 2 Mr. Kaplan

170 INTRODUCTION TO SOCIAL PSYCHOLOGY

This is an examination of the relationship between the individual and the social system as understood through the theories, methods, findings, and applications of social psychology. See also Sociology 105.
Semesters 1, 2 Mr. Sampson

172 PSYCHOLOGY OF PERSONALITY

Consideration of various theoretical approaches, including psychoanalytic, behaviorist, and self theories, and of research work in areas such as anxiety, stress, unconscious processes, emotion, and motivation will be examined.
Semester 1 Mr. Laird
Semester 2 Mr. Cirillo

184 PHENOMENOLOGICAL PSYCHOLOGY

The description and analysis of experience, particulary emotional experience, will be studied. We search for ways to share our personal experience of the world and to arrive at the essential structures of experience. In this endeavor, we consider behavior as an independent rather than a dependent variable. Therefore, rather than searching for the determinants of behavior, we consider the choices that confront us and attempt to determine the psychological consequences that necessarily follow from any given choice. Prerequisite: Psychology 101.
Semester 1 Mr. deRivera

193 INTERPRETATION OF DREAMS

This is a course dealing with the exposition, application, and critical evaluation of various systems of dream interpretation. Included will be the

systems of Freud, Jung, Stekel, Boss (phenomenological), May (existentialist), Erikson, Gestalt therapists (e.g., Perls), and others. Problems of "validity of interpretation" will be discussed, and the relation of dream interpretation to the interpretation of other "products of the imagination" will be examined. This course is accessible to students, freshmen to seniors. There is a limited enrollment. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Kaplan

194 THE PSYCHOLOGY OF PLAY

The psychological significance of play in the life of the individual will be explored. Special emphasis will include symbolic play, the development of play from childhood to adulthood, and the relation between individual and social play. Comparative analyses will consider the function of play in non-human as well as the human species. Psychology 101 is not a prerequisite for this course. The class is limited to 20 freshmen and sophomores.
Not offered 1979–80 Mr. Damon

195 BIOLOGICAL DETERMINISM AND BEHAVIOR

Beginning with the deterministic conceptions of its participants, this course will explore some intellectual history and contemporary data concerning the idea that behavior is determined by evolutionary history and physiological necessity. A course in the Humanistic Studies program. Especially designed for freshmen. Limited to 20 students. Primarily offered to students who are *not* taking General Psychology concurrently.
Semester 1 Mr. Thompson

196 THE PSYCHOLOGY OF SPORT

The course will focus on two kinds of psychological issues: those related to the participant and those related to the spectator. Participant topics will include the problems of teaching and learning physical skills, with special attention to the relation between our actions and our ideas about our actions; the effects of athletic participation on other physical and mental functioning; and the role of psychological factors in athletic and other performance, including both transient factors such as confidence and "momentum" and relatively enduring factors such as the personality of the performer. Among the topics covered with respect to the spectator are the social and psychological functions of spectator sports for individuals and society and the effects of spectator sports on the audience, with special attention to the effects of athletic violence on audiences. No prerequisites, unlimited.
Semester 2 Mr. Laird

200 LABORATORY IN ETHOLOGY

The members of the class will participate in research projects on the behavioral biology of a variety of species, mostly birds. The members will work in small teams each of which is devoted to the study of a single species. Bird species available for study include bluejays, red wing black birds, song sparrows, towees, robins, barn swallows, orioles, bobolinks, phoebes, crows, cardinals, and others. Non-bird species include wasps, frogs, dairy cattle, etc. The laboratory is conducted at the instructor's farm in New Braintree. Transportation to the farm may be provided at a nominal extra cost. Students must provide their own binoculars and wet weather gear. Enrollment is limited. Admission is by negotiation.
Modular Term Mr. Thompson

201 LABORATORY IN SOCIAL PSYCHOLOGY

General principles of experimental design are learned through the design and performance of original experiments in experimental social psychology. Both group and individual experiments are conducted in any of the usual topic areas of social psychology. The lab is limited to 20 students. Prerequisites: Psychology 170, 105.
Not offered 1979–80 Mr. Laird

202 LABORATORY IN CHILD RESEARCH

This is an introduction to methods used in the study of child thought and behavior. Students will conduct research projects involving observational, experimental, and interviewing techniques. Discussions will consider means of data analysis as well as data collection. Prerequisite: Psychology 105. The lab is limited to 16 students.
Semester 1 Staff

203 LABORATORY IN HUMAN COGNITION

Experimental studies will be considered in the area of reasoning and language comprehension, concept learning, and memory. The course is aimed at familiarizing the students with the methods used in cognitive psychology, the range of problems studied, and the theoretical concepts used to interpret experiments. Skills in experimental design, statistical analysis, reading and summarizing scientific journal articles, and scientific writing will be acquired in the context of conducting two or three closely supervised experimental projects and one more independent project. Prerequisite: Psychology 105.
Semester 1 Mr. Schmuller

204 LABORATORY IN LEARNING

The course is designed to familiarize students with research methods and experimental designs used in investigations of theories of learning and learning phenomena, with both human and animal subjects. The lab is limited to 20 students. Prerequisites: Psychology 105, 130.
Not offered 1979–80 Mr. Stevens

206 LABORATORY IN PERSONALITY

The issues and problems in psychological research in general and in the personality area in particular are examined, the problems being exemplified in studies developed and performed by the class group and by individuals. Experiments may be in any of the conventional areas of personality research, such areas as perceptual defense, motives and performance, self perception, experimenter influence, and emotions. Prerequisites: Psychology 172, 105, permission of instructor.
Semester 1, Modular Term Mr. Laird

207 LABORATORY IN PERCEPTION

This course stresses mastery of experimental skills and scientific writing in the context of the investigation of sensory and perceptual phenomena in a variety of sense modalities. Prerequisites: Psychology 105 and permission of instructor.
Semester 2 Ms. Burns

208 LABORATORY IN CHILD PSYCHOLOGY

This is an introduction to research methods employed in the study of child behavior through participation in studies carried out by the class, with

particular emphasis on experimental designs currently used in the field. Related theoretical and methodological issues will be discussed with the aim of placing the experimental study of child behavior within the study of development. Prerequisites: Psychology 105, 150.
Not offered 1979–80 Ms. Uzgiris

209 LABORATORY IN EXPERIMENTAL METHODS FOR EVERYDAY LIFE

The central premise of this course is that the techniques and ways of thinking involved in psychological research are potentially useful for anyone, not just the professional psychologist-to-be. Understanding research methods helps people to obtain reliable information in real social settings and also helps them to evaluate the results of research performed by others. The course will begin with a short period of general introduction to the logic, basic techniques, and ethics of psychological research. The bulk of the course will consist of designing, actually running, analyzing, and interpreting experiments on topics of interest to the class. Students also will perform an individual experiment on a topic of their choosing. Both group and individual experiments may be in almost any area of psychology, although most will probably be in the general areas of personality, social or organizational psychology. Prerequisites: Psychology 101, 105 and at least two additional psychology courses.
Semester 1 Mr. Laird

210 LABORATORY IN PHENOMENOLOGY

This laboratory is designed to acquaint students with the method of "conceptual encounter"—a type of phenomenology that is useful in exploring the structure of emotional experience. Prerequisite: Psychology 184 or a philosophy course in phenomenology.
Semester 2 Mr. deRivera

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING

The illustration of various cognitive and social-interpersonal models of human behavior in the classroom setting will be observed. Special consideration will be given to the work of Freud, Piaget, Skinner, Wertheimer, Lewis, and F. Kluckhohn. Students will carry out field observations and formulate and execute their own individual projects. See also Education 211. Prerequisites: Psychology 105, permission of instructor.
Semester 2 Mr. Zern

212 LABORATORY IN SYMBOLISM

Students will investigate empirically how individuals interpret concrete things and events so that they convey broader meanings, e.g., using visual imagery to represent abstract ideas, using language metaphorically to see things from a new viewpoint, using colors or lines to express emotions. Organismic-developmental theory will guide the systematic collection and analysis of qualitative data and the write-up of reports. Prerequisite: Psychology 105.
Semester 1 Mr. Cirillo

213 LABORATORY IN INTERPERSONAL RELATIONS

Interviewing in the area of interpersonal relations with emphasis on value possessions, value transmissions and value losses will be examined.

Prerequisite: permission of the instructor on day of registration; corequisite: Psychology 286. The lab is limited to 20 students.
Semester 2 Ms. Dembo

214 LABORATORY IN REHABILITATION
In this laboratory, stress is placed on interview technique in the study of rehabilitation issues. Prerequisite: permission of instructor on day of registration; corequisite: Psychology 274. The lab is limited to 20 students.
Semester 1 Ms. Dembo

215 RESEARCH IN EMOTION AND MOTIVATION
Students, working in close collaboration with the instructor, will design, conduct, and present a piece of research that investigates an emotional or motivational phenomenon. Prerequisites: Psychology 184 or Psychology 285, and permission of instructor.
Semester 1 Mr. deRivera

216 RESEARCH IN EARLY SOCIAL DEVELOPMENT
Students will participate in an ongoing research program focusing on the development of social and moral conceptions in young children. Weekly meetings will discuss study design, data analysis, and methods of data collection. Students will read and discuss relevant socialization literature, and will participate in the construction and execution of research projects. Prerequisites: Psychology 202 or 208, permission of instructor.
Not offered 1979–80 Mr. Damon

217 RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD
With roots in Piaget's theorizing, a constructivist-interactionist approach to the study of development in infancy and early childhood will be exemplified through the findings and problems from ongoing research projects. Students will formulate pertinent studies, participate in their execution, and prepare papers describing their work. Prerequisite: permission of instructor.
Semesters 1, 2 Ms. Uzgiris

218 RESEARCH IN ANIMAL BEHAVIOR: ETHOLOGY
This course has weekly meetings in which research literature of interest to the group is reviewed, and participants' research projects are designed and evaluated. Prerequisite: permission of instructor.
Semester 2 Mr. Thompson

219 RESEARCH IN BRAIN DAMAGE AND BEHAVIOR
This is a course that lasts at least one academic year and is open to anyone who has the high level of motivation and intellectual curiosity necessary to develop and carry out an intensive program of research on the relationship between brain function and the organization of behavior. Essentially, the course takes the form of a "tutorial" in which there is a very close working relationship among students, the professor, and the graduate students working in the laboratory. There is active involvement in *all* phases of research, including searching available literature, planning and design of experiments, all surgical and histological procedures, data analyses, and final preparation of the material for presentation (by the students) at scientific meetings or for publication. It must be emphasized that, while solid grasp of experimental techniques is necessary, the development of conceptual and theoretical skills is given first priority. Enrollment is

strictly limited and is by invitation of the instructor. Prerequisites: high academic standing, biological or experimental background desirable but not essential.
Semesters 1, 2 Mr. Stein

220 RESEARCH IN LEARNING AND MOTIVATION

Students will design, conduct, and interpret experimental research on problems in animal discrimination learning and motivation. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Stevens

222 RESEARCH IN HUMAN COGNITION

The information processing approach is applied to such problems as attention, memory, visual and auditory cognition. Projects might include: (1) studies of semantic memory, (2) hemispheric differences in metacontrast, and (3) multidimensional scaling analysis of memory encoding. Prerequisite: permission of instructor.
Semester 2 Mr. Schmuller

223 RESEARCH IN VERBAL AND NONVERBAL COMMUNICATION

This course reviews some of the issues and methodologies used in investigations of communication, verbal and nonverbal. Each student is helped to formulate a research plan.
Not offered 1979–80 Mr. Wiener

224 RESEARCH IN CONCEPTIONS OF HEALTH, ILLNESS AND MEDICAL PROCEDURES

Students will participate in an ongoing research program focusing upon the causal reasoning of individuals with respect to their conceptions of health, illness, and diverse medical procedures. Normal and clinical populations throughout the life cycle may be studied. Students will be expected to complete all phases of a study: formulation of the problem and hypothesis, collection and analysis of data, discussion of results. Prerequisites: Psychology 101, 105, 150, and permission of instructor.
Semester 2 Mr. Bibace

227 RESEARCH IN REASONING IN CHILDREN AND ADULTS

Each undergraduate student will conduct a research project in the area of reasoning and logical development in close collaboration with the instructor and possibly a graduate student doing research in that area. The course is designed to provide the student with the relevant bibliographical background and methodological principles as well as the full experience of conducting one entire piece of research. Introductory sessions will consist of a survey of the area and an outline of several specific research projects, concerning deductive abilities in children and adults; learning of logical rules; logical aspects and other aspects of language comprehension. The student is not required to demonstrate creativity at this initial point of generating a question, but rather the assumption is that creativity develops gradually through experience of the present sort, and one of the aims of the course is to help the student develop this ability to formulate research questions. However, personal ideas and suggestions, when present, will be welcome and encouraged. Prerequisites: Psychology 105, permission of instructor.
Not offered 1979–80 Ms. Joffe Falmagne

228 RESEARCH ON DEVELOPMENTAL ASPECTS OF TRANSACTIONS OF PERSONS-IN-ENVIRONMENTS

Theory, findings, and research problems deriving from an ongoing research program—an organismic-developmental systems approach to the analysis of transactions of persons-in-environments—will be discussed. Empirical studies on problems relevant to the research program will be formulated and conducted by individual students. Papers describing the research project will be prepared. Prerequisites: Psychology 105, permission of instructor.

Semesters 1, 2 Mr. Wapner

230 THE PHYSIOLOGY OF BEHAVIOR

This is a survey course of current problems of physiological psychology including theories of brain function. Emphasis will be placed on the underlying physiological mechanisms that mediate human behavior, i.e., motivation, emotion, learning, perception, and memory. The course is constructed on a systems approach, designed to demonstrate the complex and interdependent relationship of the body and brain to behavior.

Semester 1 Mr. Stein

231 COGNITIVE DEVELOPMENT

The course critically surveys empirical findings and selected theoretical viewpoints (especially Piaget's) in the areas of perceptual development, development of scientific concepts, logic, and language. The relations between cognitive development and, respectively, language and culture are examined and discussed in connection with the theories surveyed. Active participation from students is encouraged. Prerequisite: permission of instructor.

Not offered 1979–80 Ms. Joffe Falmagne

233 PRINCIPLES OF BEHAVIORAL EVOLUTION I: FUNDAMENTALS

The genetic, ontogenetic, population, and social mechanisms underlying the evolution of behavior. Prerequisite: permission of instructor, Introductory Biology or Psychology normally required, but open to freshmen with special qualifications by negotiation with instructor.

Semester 1 Mr. Thompson

240 DEVELOPMENTAL APPROACHES TO BEHAVIOR

This is a critical examination of presuppositions, methods, concepts, and empirical inquiries of those concerned with the development of behavioral systems. Implications of developmental conceptualization for all of the life sciences will be discussed. Psychological theories of Freud, Piaget, and Werner will be given special emphasis. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Kaplan

241 SEMINAR IN INDIVIDUAL DIFFERENCES IN COGNITIVE FUNCTIONING

This is an examination of the evidence for and explanation of individual differences in cognitive functioning and personality. Particular attention is given to the role of sociocultural factors in cognitive functioning. Prerequisite: permission of instructor.

Not offered 1979–80 Ms. Uzgiris

242 PSYCHOLOGY OF LANGUAGE

A social-psychological and anthropological analysis of the various functions of language will deal with language in everyday life, poetry, dreams, social movements, etc. Also considered will be various philosophical views of language and the relations between language and thought. Prerequisite: permission of instructor. There is a limited enrollment.

Semester 1 Mr. Kaplan

243 HUMANISTIC PSYCHOLOGY AND SOCIAL CHANGE

Persons who are committed to radical change tend to focus either on social change or on personal-spiritual growth. Dealing with the literature on Marxist theory, the history of social change, humanistic psychology, and the history of religion, this course will examine the thesis that any change that is a development (and not just a change) necessarily involves both social and spiritual revolution. To test our concepts about change, the group that constitutes this class will be involved in a social-action project in the Worcester community.

Modular Term Mr. deRivera

244 SEMINAR IN MOTIVATION

The concept of motivation will be examined. Several theoretical models will be discussed, including those of psychoanalytic, ethological, and learning theories.

Not offered 1979–80 Mr. Stevens

245 DEVELOPMENT IN INFANCY

Current research on human infants will be examined, with emphasis on relations between functioning during this period and later in ontogenesis. A view of the child as an organized adaptive system will be emphasized. Topics to be considered include learning, intellectual functioning, social relationships with others, and the beginnings of language. Some consideration will be given to deviations from normal development. Prerequisite: permission of instructor.

Not offered 1979–80 Ms. Uzgiris

247 SOCIAL DEVELOPMENT FROM INFANCY THROUGH ADOLESCENCE

This is an examination of theories and research dealing with the process of socialization in the first two decades of life. Topics to be emphasized include: attachment, imitation, role taking, and the development of social identity.

Not offered 1979–80 Mr. Damon

248 CONCEPTS IN THEORIES OF PERSONALITY—NORMAL AND ABNORMAL

This course is a consideration and critical analysis of: (1) concepts and issues in theories of personality, and (2) concepts used to account for deviant behavior. Prerequisites: Psychology 172, 173.

Not offered 1979–80 Mr. Wiener

249 PSYCHOLOGY OF DEATH

Beliefs and actions regarding death in diverse social contexts and cultures. Prerequisite: permission of instructor.

Not offered 1979–80 Mr. Bibace

250 COMMUNICATION: VERBAL AND NONVERBAL

This course deals with: (1) an analysis of the term communication and (2) a study of the varieties of communication patterns for different populations.

Not offered 1979–80 Mr. Wiener

251 CURRENT CONCEPTS IN MENTAL HEALTH: THEORY AND PRACTICUM

The course meets three days a week at Worcester State Hospital during which students attend a lecture series on various facets of mental health care given by hospital personnel. In additon, students are assigned to wards in order to observe directly the operation of this hospital and to talk with staff and patients. All work by students is supervised by predoctoral psychology interns. A paper is required. Prerequisite: Abnormal Psychology 173.

Modular Term Mr. Peterson

252 PRINCIPLES OF BEHAVIORAL EVOLUTION II: APPLICATIONS

The description and explanation of selected animal social systems including some insects, birds, and primates will be studied. This course is designed to follow Psychology 246 but may be taken first by permission of instructor.

Semester 2 Mr. Thompson

254 INTERPRETATION OF BEHAVIORS TRADITIONALLY SUBSUMED BY "ABNORMAL PSYCHOLOGY"

The course will deal with the interpretation of some behaviors usually subsumed by "Abnormal Psychology." Behaviors such as schizophrenia, depression, hysteria, obsession, and antisocial personality will be examined. The goal is to articulate multiple theoretical and relational perspectives regarding what is referred to as "abnormal," assumptions regarding how "abnormality" comes about, methods of treatment and the assumptions which lie behind them. Students participate in the clinician's "world of action." Students observe, describe, interpret, and prescribe courses of action for sample "cases," which fall within various "abnormal categories." Prerequisite: Psychology 172, permission of instructor.

Semester 1 Mr. Bibace

258 HISTORY OF PSYCHOLOGY

The historical development of theories and methods of psychology will be studied. The class is limited to 50 students.

Not offered 1979–80 Mr. Kaplan

261 HUMAN NEUROPSYCHOLOGY

Beginning with the neurological basis of behavior and neurobehavioral abnormalities, the field of cortical function is surveyed from the clinical, theoretical, and experimental viewpoints. Topics covered include aphasia, cerebral dominance, memory and its disorders, organic disorders of perception and emotions, methods used in clinical, and experimental study.

Semesters 1, 2 Ms. Kaplan, Mr. Alexander, Mr. Bear
Ms. Oscar-Berman, Mr. Benson, Mr. Butters
Mr. Goodglass, Mr. Howes, Mr. Mirsky
Mr. Rosenfield, Mr. Zurif

262 INFORMATION PROCESSING—MEMORY AND PERCEPTION

Models of normal information processing and their application to neurologically impaired perceptual and mnemonic processes will be reviewed. An attempt will be made to show how different neurological disorders represent failures at distinctive stages of information processing. Clinical materials related to visual object agnosia, constructional apraxia, and various amnesic states will be presented and discussed in detail. Emphasis will be placed upon a critical examination of the theoretical and experimental investigations of Luria, Teuber, Talland, and Milner.

Semester 1 Ms. Oscar-Berman, Mr. Butters, Mr. Cermak

263 SEMINAR IN VISUAL PERCEPTION

This course deals with an analysis of sensory and perceptual systems and behavior. The emphasis will be on information processing approaches as well as sensory psychophysical approaches to the study of visual perception. Prerequisites: Psychology 101, 140.

Semester 1 Ms. Burns

264 SELECTED PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY: HISTORY AND EVOLUTION OF IDEAS IN BRAIN FUNCTION AND BEHAVIOR

This seminar course will discuss the evolution of the concepts of brain function and structure beginning with ancient Greek and Middle Eastern notions of the mind-body problem and ending with current concepts and models based on mathematical and holographic metaphors. The issue of localization of function in the brain and the evolution of thinking about this problem will serve as the underlying theme for organizing the topic. Other related issues such as: reductionism, emergence, psychophysical parallelism and determinism will also be discussed and evaluated. Open to advanced undergraduates and graduate students. Prerequisites: at least one course in undergraduate physiological psychology or its equivalent, permission of instructor. All students will be expected to present a seminar and lead a critical and evaluative discussion of the materials they present. A major critical and evaluative paper on the topic of their choice must be submitted by the end of the semester to obtain credit for this course. Offered in alternate years.

Semester 2 Mr. Stein

265 INFORMATION PROCESSING—NEUROLINGUISTICS

The phenomena of aphasia, alexia, and associated disorders of language will be considered in relation to theories of the storage and processing of verbal information. Relevant models dealing with phonology, word selection, syntax, and semantics will be discussed. Attention will be given to the special problems of using psychological theories based on experimental data from normal subjects to account for findings with brain-damaged patients.

Not offered 1979–80 Mr. Howes, Mr. Zurif

266 CEREBRAL DOMINANCE SEMINAR

The distinctive roles of the left and right hemispheres in man will be reviewed, first by examining alterations in language and nonverbal behavior under conditions of unilateral brain damage and section of the corpus collosum. A second approach will involve the examination of techniques used to investigate hemispherical functional asymmetry in the

normally intact brain. Special attention will be devoted to hemispheric asymmetry in relation to different levels of language processing.
Not offered 1979–80 Mr. Goodglass, Ms. Kaplan, Mr. Zurif

268 PSYCHOLINGUISTICS
The course is intended for graduate students and advanced undergraduates with a solid formal background. The first part of the course will consist of a systematic introduction to linguistics (generative transformational grammar, semantics). The second part will be a survey of selected empirical work in psycholinguistics, aimed at providing familiarity with the literature, issues, and bibliographical sources, and at identifying and formulating new or continuing empirical questions. The course will be conducted as a workshop, in which the sequence of readings and topics will ensure a systematic progression through the material, and each student will have primary responsibility for the formal presentation of part of the material on one session. A supplementary reading list will be provided at the end of the course; the aim of the course is to enable students to continue reading on their own in the area after this introductory background. Prerequisite: permission of instructor. The course is limited to 10 students.
Not offered 1979–80 Ms. Joffe Falmagne

270 SEMINAR—ADVANCED TOPICS IN SOCIAL PSYCHOLOGY
This is an intensive treatment of selected areas in social psychological research and theory, including consistency theories in attitude formation and in interpersonal perception; attribution theory in self-perception; social/situational determinants of normal, everyday behavior and of antisocial behaviors such as violence, criminality, and riots. Ordinarily limited to senior majors in psychology or sociology. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Laird

272 CONCEPTS IN LEARNING THEORY
Some persistent problems in the field of learning are examined. Examples of such problems are the question of the universality of laws of learning, differentiating between nonassociative (motivational) and associative factors, and species differences. Psychology 130 provides desirable preparation for this course.
Not offered 1979–80 Mr. Stevens

274 SEMINAR IN REHABILITATION
Psychological problems in everyday life situations, such as problems of the physically disabled, mentally retarded, the aged, the poor, etc. will serve as topics. The primary focus is on interpersonal relations and their importance for environmental changes. The seminar is limited to 20 students. Prerequisite: permission of instructor on day of registration; corequisite: Psychology 214.
Semester 1 Ms. Dembo

276 SYMBOLISM IN EVERYDAY LIFE: LANGUAGE, DREAMS, MYTHS, LITERATURE, AND SCIENCE
This is a critical examination of various theories of symbol-formation with special emphasis on the origins, structure, and functions of dreams and myths. The relation of dream formation to psychopathology and the recent

work on the physiological bases of dreaming will also be discussed. Prerequisite: permission of instructor.
Semester 2 Mr. Kaplan

277 THE CREATIVE PROCESS

A critical examination of a number of attempts, in the humanities and human sciences, to describe and/or explain manifestations of creativity in the arts, sciences, and other domains. Major focus will be on the factors presumably constituting the creative act or inherent in creative functioning. Subsidiary attention will be paid to conditions in the cosmos, society, or the 'personality structure' putatively facilitating or inhibiting creative functioning. Among the theorists considered will be such philosophers as Aristotle, Kant, Hegel; such belles-lettrists as Coleridge, K. Burke, A. Koestler; psychoanalysts of various persuasions and degrees of clarity, Freud, Kris, Rycroft, Jung, Neumann, Arieti, et al; psychologists from various schools, phenomenological, Gestalt, behavioristic. One requirement for the course is a final paper, in which each participant articulates his/her conception of the creative process and its conditions and rigorously defends his/her formulation. Limited to 20 students. Permission of the instructor.
Semester 1 Mr. Kaplan

278 COGNITIVE DEVELOPMENT FROM INFANCY TO ADOLESCENCE

This seminar will focus on an examination of selected research studies and theoretical accounts of concept development, memory, and reasoning, with special emphasis on Piagetian and Soviet perspectives. Prerequisites: permission of instructor, several introductory courses in psychology.
Semester 2 Ms. Uzgiris

285 FIELD THEORETIC APPROACH TO ACTION AND EMOTION

The basic motivational dynamics that underlie willed action appear to differ from the dynamics underlying emotion. After a close examination of the field theory of action and emotion and of the structural theory of emotion, we will attempt to construct a theory that can relate action and emotion as we experience them. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. deRivera

286 SEMINAR IN INTERPERSONAL RELATIONS

Value problems pertaining to interpersonal relations will be discussed, including value possessions, value losses, regaining of values, and adjustment to value losses. The pertinence of these topics in social-emotional relations and rehabilitation context will receive special consideration. The seminar is limited to 20 students. Prerequisite: permission of instructor on day of registration; corequisite: Psychology 213.
Semester 2 Ms. Dembo

288 LOGICAL REASONING IN ADULTS AND CHILDREN

The course will cover in depth the current empirical findings and theoretical developments in the areas of propositional reasoning, syllogistic reasoning, and transitive inference in children and adults. Issues related to the notions of mode of representation and of logical competence will be given particular attention, and connections with the adjacent area of psycholinguistics will be discussed. The research and models concerning

reasoning in children and reasoning in adults, respectively, will be presented from a common perspective, and the contrasts and connections with the Piagetian perspective will be indicated. Prerequisites: Psychology 231 or 268, permission of instructor.
Not offered 1979–80 Ms. Joffe Falmagne

289 PSYCHOLOGY FROM THE VIEWPOINT OF AN ORGANISMIC-DEVELOPMENTALIST

This is a systematic, integrated overview of the field of psychology. Using organismic-developmental theory as an integrating framework, paradigmatic problems and methods in psychology will be surveyed with a major focus on the interrelationship of assumptions, hypotheses, and empirical findings in each area. A variety of phenomena of central interest to psychologists will be treated utilizing such concepts as levels of organization, person-environment systems, structure-function relationships. The course will be conducted in seminar fashion, and students will be expected to participate actively by analyzing relevant empirical work, giving presentations, etc. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Wapner

296 DIRECTED RESEARCH IN PSYCHOLOGY

This is an independent study for qualified students not in the honors program. Prerequisite: permission of department chairman. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

297 DIRECTED READINGS IN PSYCHOLOGY

This is independent study for qualified students not in the honors program. Prerequisite: permission of department chairman. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

298 SUPERVISED PRACTICUM AND DIRECTED READINGS IN USE OF PSYCHOLOGICAL KNOWLEDGE AND METHODS IN PRACTICAL SETTINGS

Experience in practical settings in work related to the subject matter of psychology as studied in previously taken courses, with bibliographical research on a topic of theoretical importance in psychology. Participants must be sponsored and supervised by a member of the Clark psychology faculty who will be responsible for evaluating the student's work, typically through a term paper on the selected topic integrating material from the literature with observations made in the practicum. May be taken for one course credit and may substitute for one of the two required upper-level seminars (in the 240-289 range) unless one of the courses offered in satisfaction of that requirement is Psychology 251, Current Concepts in Mental Health. Enrollment must be approved by the course coordinator.
Semesters 1, 2 Mr. Baker, Staff

299 HONORS IN PSYCHOLOGY: SENIOR YEAR

Students will carry out a research project under the direction of a member of the staff. Offered for variable credit.
Semesters 1, 2, Modular Term Staff

300 PROSEMINAR—DEVELOPMENTAL PSYCHOLOGY

A seminar devoted to the presentation and critique of different develop-

mental approaches to the individual and his/her ways of functioning in the world. Among the approaches considered are: (1) organismic-developmental, (2) Piagetian, (3) Soviet approaches to psychology, and (4) Freudian and neoFreudian. The aim of the seminar is to acquaint the participants with sympathetic expositions of diverse points of view and the application of these viewpoints to empirical inquiry. It will thus provide a basis for subsequent discussions in other seminars of the various ways of dealing with substantive issues (e.g., learning, moral action and moral judgment, language behavior, the processes of thinking). Several faculty members and advanced graduate students will participate in conducting the seminar.
Not offered 1979–80 Ms. Burns, Mr. Damon, Ms. Uzgiris,
Ms. Falmagne, Mr. Kaplan

301 PROBLEM, THEORY, AND METHOD IN PSYCHOLOGY

During the first half of semester 1, the faculty will present their own research with an emphasis on the special features of methodology they employ, including the links between method, theory, problems, and findings. During the second half of semester 1, and semester 2, there will be informal ad hoc individual or group meetings in which students will present proposals for their M.A. theses. At the end of the second semester, students will submit written reports which cover the status of the students' research.
Semesters 1, 2 Mr. Wapner

302 STATISTICAL METHODS

During semester 1, the theoretical foundations of inferential statistics are discussed. Topics include probability, sampling distributions, and hypothesis testing. The second semester is concerned with complex analysis of variance designs and regression. Also, students learn to use the statistical package on the University computer.
Semesters 1, 2 Mr. Schmuller

303 PROSEMINAR IN EXPERIMENTAL PSYCHOLOGY

This is an introduction to psychophysics, sensory processes, theories of perception, theories of learning, memory, language, information processing, higher mental processes, including the biological bases thereof. This seminar is designed to give students basic concepts in classical and contemporary psychology and to survey the theories, major findings, and contemporary issues in those areas. Several faculty members will conduct the class, each being responsible for the section of the course in her/his area of specialization.
Not offered 1979–80 Ms. Burns, Ms. Joffe Falmagne, Mr. Schmuller,
Mr. Stevens, Mr. Wiener

304 FORMAL MODELS FOR PSYCHOLOGY

This is an introduction to formal methods and models applicable to psychological theorizing. The aim of the course is to familiarize students with methods and formal ways of thinking of wide applicability across content areas, to indicate how various theoretical or empirical questions can be formalized in those terms, and to equip students with the sources and further readings that will enable them to pursue those topics further on their own. The topics covered in the first segment of the course will include sets and relations, groups, lattices, fuzzy sets, formal grammars and automata, and Markov chains. Illustrative applications of those methods to various content areas will be presented and worked out. The

second segment of the course will deal with psychological measurement. Topics to be discussed include foundations of psychological measurement, Thurstonian scaling, factor analysis, and current multidimensional scaling techniques. Students will use each of these measurement models to analyze sample data.
Not offered 1979–80 Ms. Joffe Falmagne, Mr. Schmuller

305 BASIC PSYCHOLOGICAL PROCESSES IN SOCIAL-PERSONALITY
This is an examination of important processes in social-personality psychology. Topics include processes in motivation, attribution and evaluation, group formation and development, in the interactions between individual dynamics and cultural institutions.
Not offered 1979–80 Mr. deRivera, Mr. Laird

308 RESEARCH PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY
This is an advanced tutorial course in research methodology including surgical and stereotaxic techniques, histology, EEG recording and analysis, and general methods for animal care. Prerequisite: permission of instructor. Offered on an "as-needed" basis.
Not offered 1979–80 Mr. Stein

309 ADVANCED SEMINAR IN PSYCHOBIOLOGY
This seminar is designed to cover topics mutually agreed upon by the instructor and students. Past subjects have included: psychobiology of aging, experimental approaches; neuroplasticity and recovery from brain damage; physiological aspects of learning and memory; developmental neurobiology. Although the course primarily is open to graduate students, undergraduates who have successfully completed Psychology 230 may request permission to enroll. All students are required to conduct a seminar and lead discussions.
Semesters 1, 2 Mr. Stein

311(a) CLINICAL METHODS, I
This is an introduction to psychometric and projective assessment.
Semester 1 Ms. Kellett

311(b) CLINICAL METHODS, I
This is a clinical interpretation of representational behavior in projective tests and interviews from a cognitive and developmental viewpoint. Offered as a half course, first half of semester.
Semester 2 Mr. Cirillo

311(c) CLINICAL METHODS, I
This is a clinical seminar in neuropsychological assessment. Offered as a half course, second half of semester.
Semester 2, Modular Term Ms. Kaplan, Mr. Goodglass

312 PSYCHOPATHOLOGY
This is an introduction to psychopathology—directly, through naturalistic observation and interviews with seriously disturbed individuals and indirectly, through clinical and experimental reports related to description and explanation of psychopathology. A paper on some specific psychopathological phenomenon (e.g., delusions, hallucinations) will be required.
Semester 2 Mr. Bibace

314 TOPICS IN PERCEPTION

Selected issues in sensory processes, perception, perceptual development, and theories of perception will be considered. Special attention will be given to findings and perspectives that relate to more than one sense modality.

Not offered 1979–80 Ms. Burns

315 IMITATION, INTERNALIZATION, IDENTIFICATION

This seminar is concerned with processes involved in self-other differentiation and the influence of significant others in the construction of the self. The writings of J. M. Baldwin, J. Piaget, G. H. Mead, A. Bandura, R. Schafer, M. Mahler, and J. Macmurray pertaining to these processes are discussed and relevant research evidence is considered.

Not offered 1979–80 Ms. Uzgiris

317 BEHAVIOR IN INFANCY

The seminar will proceed from an examination of the capacities for functioning in the neonate to a consideration of the changes in those capacities during ontogenesis with a view toward understanding the infant's organization of its functioning in the world.

Semester 1 Ms. Uzgiris

319 ADVANCED SEMINAR ON ORGANISMIC-DEVELOPMENTAL APPROACHES TO BEHAVIOR

The basic categories of the organismic-developmental approach to life sciences, with examination of the application of these categories to a wide range of problem areas in psychology will be studied.

Semester 1 Mr. Kaplan

320 ADVANCED SEMINAR IN GENETIC-STRUCTURAL THEORIES

In this seminar, the major categories of all genetic-structural developmental theories (Freud, Werner, Piaget, et al) and the concepts and methodologies specific to different theories will be thoroughly examined and critically analyzed. This is an ongoing seminar comprised of advanced graduate students including interested faculty. The seminar deals with the systematic roles of such concepts as "development," "structure," "regression," "system," "stage," etc.

Semester 2 Mr. Kaplan

322 PSYCHOLOGY OF LEARNING

Theoretical viewpoints and experiments in the field of learning will be considered.

Not offered 1979–80 Mr. Stevens

324 THEORIES OF PERSONALITY I: ISSUES IN THE PHILOSOPHY OF PSYCHOLOGY

This course covers three areas: (1) discussion of the philosophical bases of "theories" of personality, (2) consideration of some of these issues in different theories (e.g. Freud, Kelly, Dollard, and Miller), and (3) presentation and discussion of an alternative framework.

Not offered 1979–80 Mr. Wiener

325 THEORIES OF PERSONALITY II: EXPLORATION OF EXEMPLAR THEORIES OF PERSONALITY

Not offered 1979–80 Mr. Wiener

327 MORAL DEVELOPMENT

The classical and contemporary approaches to the development of moral judgment and conduct in the individual will be studied. Emphasis will be on new and future directions for research in this area.
Not offered 1979–80 Mr. Damon

328 SOCIAL COGNITION

This course will focus on contemporary approaches to the study of social reasoning in children, adolescents, and adults. Emphasis will be on the individual's developing knowledge of interpersonal relations, the self, and other persons. Recent theoretical and empirical work will be considered.
Not offered 1979–80 Mr. Damon

330 GRADUATE SEMINAR ON TEACHING OF GENERAL PSYCHOLOGY

Graduate students, who will participate as teaching assistants in general psychology, will work on the formulation of all features of the course including assignments, responsibilities for lectures, readings, demonstrations, etc.
Modular Term Staff

331 CLINICAL METHODS, II

A practicum devoted to clinical experiences primarily with children. This includes intelligence and projective testing, diagnostic interviewing, and play therapy with children.
Semesters 1, 2 Mr. Ciottone

332 THEORIES OF PSYCHOTHERAPY

A comparison of various theoretical approaches to psychotherapy will be considered.
Not offered 1979–80 Mr. Wiener

334 SEMINAR IN BEHAVIOR AND EVOLUTION

This is a consideration of selected contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. See also Biology 334.
Semester 1 Mr. Thompson

336 CURRENT TOPICS IN COGNITIVE PSYCHOLOGY

The course will review the current theoretical and empirical literature on comprehension and on long-term memory for meaningful material. Current theories within cognitive psychology will be examined in depth (Anderson and Bower, Norman, Lindsay and Rumelhart, Kintsch, Paivio, Collins and Quillian) as well as the theoretical work in linguistics associated with it (e.g., Fillmore's case grammar; the Miller and Johnson-Laird analysis of language and perception). The corresponding current cognitive empirical literature then will be surveyed, covering such topics as sentence comprehension, memory for meaningful material, imagery, categorization and semantic memory. The aim is to provide students with a solid basis for keeping up with this rapidly expanding area. Prerequisites: prior course in psycholinguistics recommended; otherwise, permission of instructor.
Not offered 1979–80 Ms. Joffe Falmagne

337 SEMINAR ON REASONING
The current theoretical and empirical literature on logical reasoning will be examined in depth with particular attention to the notion of logical competence and its alternatives. Formal models proposed for natural logic will be surveyed, as well as material focusing on the deductive process, per se. The closely related areas of language comprehension, semantics, imagery, and representation of meaning in long-term memory will be selectively covered. Prerequisites: Psychology 268, 286, 336, or equivalent background recommended. Otherwise negotiate supplementary readings with instructor.
Not offered 1979–80 Ms. Joffe Falmagne

338 CONCEPTIONS OF PERSONS
An examination of research and theory attributions to self and others and their relationship to action.
Semester 1 Mr. Laird

339 SEMINAR ON THE EFFECTS OF EARLY EXPERIENCE
This is an examination of recent evidence pertaining to the effects of various circumstances during early ontogenesis on the course of perceptual, cognitive, and motivation development; aimed at conceptualizing these effects within a coherent framework.
Not offered 1979–80 Ms. Uzgiris

340 PHENOMENOLOGY OF INTERPERSONAL RELATIONS
The techniques of observation and the purpose of inquiry necessarily influences the course of experience. How are we to validate the different descriptions that ensue? In this seminar we will contrast the investigation and description of experience as it develops in: a taped psychoanalytic case, the course of practice in Buddhist meditation, one of Merleau-Ponty's phenomenological inquiries, the observational-interview techniques developed by Kurt Lewin and his students, and the structural analyses of emotions.
Semester 2 Mr. deRivera

342 CHEMICAL COMMUNICATION
This is a seminar dealing with the role of pheromones in mammalian behavior.
Not offered 1979–80 Mr. Stevens

351 CLINICAL METHODS, III
Practicum training in some special area, e.g., child clinical, family interactions, human neuropsychology.
Semesters 1, 2 Staff

352 CLINICAL METHODS, IV
A supervised experience in diagnostic interviewing in the Psychological Services Center.
Semesters 1, 2 Mr. Baker, Mr. Cirillo

353 THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION
Semesters 1, 2 Mr. Peterson

357 SYMBOLIC BEHAVIOR
The seminar's first semester will deal with "primitive" forms of cognition

and expression (representation, symbolization) as these are manifested in ontogenesis (language behavior, play, etc.) in the collective representations of nonliterature societies (as discussed by Levy-Bruhl, Levi-Strauss, and others), in oneiric states (dreams, hypnogogic conditions) in poetry, and in organic- and psychopathology. During the second semester the seminar will be oriented toward research in the area of "primitive" thinking and expression. Only those registered during the first semester will be permitted to enroll during the second semester.
Semesters 1, 2 — Mr. Kaplan

360 SEMINAR: CURRENT APPROACH TO THINKING, I

The seminar is aimed at providing an introduction to a number of contemporary, increasingly influential approaches to thinking, in particular: (1) computer simulation of problem-solving, memory, language comprehension; (2) recent Soviet work on thought and inner speech; (3) psychological and linguistic approaches to reasoning and semantics. The format will be study, presentation, and discussion of selected significant writings in these areas. An additional "directed readings" arrangement may also be worked out optionally.
Not offered 1979–80 — Ms. Joffe Falmagne

365 SEMINAR IN RESEARCH ON LANGUAGE AND LOGICAL DEVELOPMENT

Specific topics in adolescent propositional reasoning, language development, and acquisition ofnt of propositional reasoning, language development, and acquisition of number concepts will be examined in depth. The relevant literature will be surveyed and research projects will be developed by the students in these respective areas. The intended outcome of the seminar is for each student to produce an extensive literature review paper and a research proposal on one of these specific topics.
Not offered 1979–80 — Ms. Joffe Falmagne

380 RESEARCH IN PSYCHOLOGY

Direction of individual students in their research.
Semesters 1, 2 — Staff

381 READINGS IN PSYCHOLOGY

This is a critical analysis of literature in areas related to individual research.
Semesters 1, 2 — Staff

382 CONSULTATION IN FAMILY PRACTICE

Practicum in consultation to residents in family medicine.
Semesters 1, 2 — Mr. Bibace, Mr. Frey, Mr. Catlin, Ms. Cotsonas

385 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, I

Semesters 1, 2 — Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener

386 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, II

Semesters 1, 2 — Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener

387 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, III

Semesters 1, 2 — Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener

388 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, IV
Semesters 1, 2 — Mr. Baker, Clinical Staff, Mr. Bibace, Mr. Cirillo, Mr. Wiener

389 INTERNSHIP IN PSYCHOLOGY
Semesters 1, 2 — Staff

Russian

See Department of Foreign Languages and Literatures.

Science, Technology and Society

PROGRAM FACULTY

Christoph Hohenemser, Ph.D., Professor of Physics, Program Chair
Dennis W. Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Associate Chair and Undergraduate Adviser
Roger E. Kasperson, Ph.D., Professor of Government and Geography
Robert W. Kates, Ph.D., Professor of Geography and Research Professor
John T. Reynolds, Ph.D., Professor of Microbiology
Harry E. Schwarz, B.C.E., Professor of Environmental Affairs
John A. Davies, Ph.D., Associate Professor of Physics
Harvey A. Gould, Ph.D., Associate Professor of Physics
Albert M. Gottlieb, Ph.D., Assistant Professor of Physics
Samuel E. Johnson, Ph.D., Assistant Professor of Zoology
Alan A. Jones, Ph.D., Assistant Professor of Chemistry
Don M. Shakow, Ph.D., Assistant Professor of Economics
Robert L. Goble, Ph.D., Visiting Assistant Professor of Physics and Science, Technology and Society
Charles Puccia, Ph.D., Visiting Assistant Professor of Science, Technology and Society (part time), Adjunct in Environmental Affairs

UNDERGRADUATE PROGRAM

STS is a program of interdisciplinary study with emphasis on the assessment of policy questions involving the use and misuse of science and technology. The goal of the program is to produce individuals who are able to deal with technical issues in a social and political context, and who do so with an acute awareness of the short and long range limitations of the natural environment. Participating faculty have interests and research activities in a wide range of current societal problems , and regular courses of instruction are offered in three principal areas: (1) energy technology and policy, (2) environmental science and management, (3) assessment and control of technological hazards.

A major in STS would be of interest to students with an inclination toward science and a concern for the numerous and complex problems facing our technological society. The program also is attractive to students who wish to add an interdisciplinary component to their studies within a traditional field, as majors from other departments often constitute the majority of students enrolled in program courses. Science majors in particular find STS courses a useful way of adding breadth to their departmental programs.

Graduates of the program have begun to pursue varied and interesting careers in a diversity of fields. Several former STS students, for example, are doing graduate work in areas such as environmental engineering, technology and human affairs, medicine, and law. Others have secured positions with private and public organizations in the energy field. Future graduates might become government regulatory officials, science writers and teachers, environmental lawyers, or community service workers. Many possibilities exist for the person with a broad-based education and some familiarity with the interdisciplinary problems dealt with in the STS field.

Although natural science and social science are both important to the program, degree requirements do not give them equal weight. There is an emphasis on achieving literacy in natural science, and the reason is twofold: (1) many significant problems are accessible only with a thorough grounding in natural science; (2) in the nation's future there is a significant need for managers of science and technology, whose technical background is more than perfunctory. Recognizing this, majors in the program often take more than the minimum number of required science courses and, in many cases, have elected to double major with a regular science department.

The requirements for the major in Science, Technology and Society are as follows—

1) Ten semesters of basic natural science, with at least six in a single discipline. For the present purpose, the natural sciences are considered to include physics, chemistry, biology, and mathematics. Certain courses in economics may also be creditable toward this requirement.
2) Four semesters of basic social science, carefully selected with the advice of the Program Committee to complement the natural science concentration and to fulfill the goals of the student. These courses are frequently drawn from areas such as economics, government and law, geography and environmental affairs.
3) Three semesters of courses offered under the auspices of the program, as listed below. These courses are all problem-oriented, provide a distinct multidisciplinary perspective, and, in many cases, are offered jointly by two or more of the program faculty.

The choice of specific courses to meet these requirements must be approved by the Program Committee, after discussion with individual members, including those who are affiliated with departments in which the students have their science concentration. Students should present a tentative plan of study to the undergraduate adviser at the earliest possible date and are encouraged to meet with him/her at the beginning of each semester thereafter.

Students who wish to receive honors in Science, Technology and Society must pass a comprehensive examination in their senior year at the B+ level and must present an acceptable undergraduate thesis. The comprehensive examination will cover: (1) basic science in a discipline of the candidate's choice, (2) basic social science in the discipline of the candidate's choice, and (3) a major problem of Science, Technology and Society of the candidate's choice.

Students wishing to examine sample programs or obtain more detailed information about STS should request a *Guide for Prospective Majors* from the undergraduate adviser.

INTERNSHIPS AND RESEARCH OPPORTUNITIES

Majors in the STS program are encouraged to strengthen their educational experience further by working in paid summer jobs related to their academic interests. These internships are often obtained with the advice and assistance of the Program Committee, whose members have contact with numerous organizations. Examples of placements in recent years include the Town of Holden Conservation Commission, the Massachusetts Energy Office, the Scientists Institute for Public Information, the Central Massachusetts Regional Environmental Council, the Massport Office of Noise Control, the Central Massachusetts Air Pollution Control District, and the Massachusetts Office of Coastal Zone Management.

Another important way for undergraduates to supplement their formal classroom training is to participate in one of several research projects conducted each year by members of the Program Committee. The results of such work are often published in the *STS Review*, an occasional journal which began operation in November of 1975.

One continuing project that has involved undergraduates in past years is the Cogeneration Feasibility Project, a study of the technical, economic, environmental, and legal aspects of the proposed generation of both steam heat and electricity on the Clark campus. Other projects in which students participate include a major study of the management of technological hazards, and a statewide information and referral service on the energy conservation in the home (the "Energy Phone").

THE CENTER FOR TECHNOLOGY, ENVIRONMENT, AND DEVELOPMENT

Several faculty of the STS Program are members of the newly-formed Center for Technology, Environment, and Development, designed to consolidate a variety of interrelated research activities of some twenty or more faculty with common interests in technology assessment, environmental protection, and international development. The four major aims of the center are as follows: (1) to encourage regular and frequent contact among participating faculty through a program of core seminars; (2) to provide a base from which visiting scholars and policy-makers can spend extended periods making contributions to ongoing projects; (3) to plan coherent doctoral and postdoctoral educational programs and to provide internship opportunities for outstanding undergraduates; (4) to communicate research findings to the community of scholars, decision-makers, and concerned citizens through a vigorous outreach program. The center is directed by Dr. Roger Kasperson, professor of Government and Geography and a member of the STS Program Committee.

GENERAL COURSES

101 INTRODUCTORY CASE STUDIES

This course introduces students to the fields of technology assessment and environmental affairs by presenting a series of problem-oriented, interdisciplinary cases. Announced at the beginning of each semester, these cases are drawn from such areas as population and food, land and water resources management, energy, pollution control, and technological risk assessment. An integrative research paper, prepared in close consultation with an instructor, plays a major role in the course, and guest speakers, field trips, and special class exercises are also used to enhance the learning

experience. Also offered for credit as Environmental Affairs 101.
Semester 1 Mr. Hohenemser, Mr. Schwarz
Semester 2 Mr. Ducsik, Mr. Johnson

116 PRINCIPLES OF MODELLING

Refer to course description under Environmental Affairs 116. Also listed for credit as Math 116.
Semester 1 Mr. Puccia, Mr. Gould

223 THE DYNAMICS OF SYSTEMS

Refer to course description under Environmental Affairs 223.
Not offered 1979–80 Mr. Gould, Mr. Schwarz

275 CITIZEN PARTICIPATION

Erosion of public confidence in the institutions and professionals charged with managing societal affairs is commonplace and has brought proposals that decision making be conducted more openly and with full opportunity for citizen participation. This course explores a range of theoretical and practical issues surrounding this concept, with particular reference to situations involving the social control of technology (e.g., the regulation of public health) and environmental protection (e.g., the planning of major public works projects). Major theories regarding the nature and forms of participation will be examined and contemporary experience with participatory programs will be reviewed. Also listed for credit as Environmental Affairs 275, Geography 275, and Government 275.
Semester 2 Mr. Ducsik, Mr. Kasperson

ENERGY RELATED COURSES

131 SOLAR ENERGY

This is a critical survey of existing and proposed methods of utilizing solar energy. Topics include a history of solar energy applications, the use of solar energy for space and water heating, the limitations imposed by thermodynamic laws and economic costs, and an analysis of methods of producing work from solar energy (e.g., solar heat engines, wind, solar cells, ocean thermal gradients, biological methods, etc.). No particular background in physical science beyond high school physics or chemistry is needed. Students will be asked to analyze and evaluate simple systems quantitatively and will become familiar with experimental solar devices now at Clark. Also listed for credit as Physics 131.
Semester 1 Mr. Davies

132 ALTERNATIVE ENERGY SYSTEMS LABORATORY

This lecture and laboratory course is designed to complement and augment STS 131. The subject matter is approached by first developing the concepts of temperature, heat, and energy and then applying these ideas to alternative energy devices. Laboratory experiments include measurementof the performance of solar collectors, photovoltaic cells, and wind machines. Corequisite: Physics 11 or 12, or prerequisite: STS 131. Limited. Two lectures and one laboratory per week. Also listed for credit as Physics 132.
Semester 2 Mr. Gottlieb

201 ENERGY AND SOCIETY

This is a wide-ranging introduction to the global energy situation and the

"crisis" facing our energy-intensive industrialized nation. In the first several weeks, students develop literacy in the technical, economic, and social aspects of energy use. The second half of the course focuses on major energy policy issues, such as the future availability of oil and other resources, the role of conservation, the status of "non-conventional" technologies, and the environmental tradeoffs associated with energy production. Calculus is not required but facility in algebraic manipulation is necessary. Permission of the instructor is required.
Not offered 1979–80 Mr. Ducsik

231 ELECTRICITY PLANNING AND REGULATION

As manifest in the recent controversy surrounding the Seabrook nuclear power plant, the future of electricity supply is among the most hotly debated of all energy-related issues in the U.S. After providing students with appropriate background on the salient technical, economic, and institutional aspects of electricity production, this course examines a number of key policy issues (e.g., load forecasting, fuel choice siting, pricing) with an eye toward their environmental and social consequences. The Seabrook case is used to illustrate how, and how effectively utility planning and governmental regulation operate with respect to these issues. Also listed for credit as Economics 231.
Semester 1 Mr. Ducsik, Mr. Shakow

272 SPECIAL PROBLEMS IN ALTERNATIVE ENERGY RESOURCES

A project-oriented course tied to ongoing faculty research. In recent semesters, the seminar has focused on a variety of economic and environmental issues associated with decentralized power generation, using the proposed Total Energy Systems for Clark University as a test case. Currently under investigation is the meteorology of the Worcester area and the potential air quality effects of a diesel-fired cogeneration plant on campus.
Semesters 1, 2 Mr. Goble

273 PRACTICUM IN HOME ENERGY CONSERVATION

Under a grant from the Office of Energy Resources of Massachusetts, the STS Program operates a statewide information and referral service (the "Energy Phone") for homeowners with questions about conservation, alternative energy sources, and related matters. This course provides training for students who wish to work for the Energy Phone on a 9-12-hour per week basis, at the minimum wage rate. The first several weeks cover the conceptual basis for energy conservation and the fundamentals of insulation, heating systems, weatherization, and so on. Afterward, students learn how to conduct a home energy audit, attend occasional seminars, and prepare a research paper on some aspect of energy conservation. Some college-level background in basic physical science is desirable, and permission of the instructor is required. Offered for variable credit.
Semester 1 Mr. Ducsik

ENVIRONMENT RELATED COURSES

142 ENVIRONMENTAL CHEMISTRY

Refer to course description under Chemistry 142.
Semester 1 Mr. Jones

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT

Refer to course description under Economics 155.
Semester 2 Mr. Shakow

239 BIOLOGICAL AND HEALTH ASPECTS OF WATER POLLUTION CONTROL

Refer to course description under Biology 239. Also listed for credit as Environmental Affairs 239.
Semester 2 Mr. Reynolds

245 ENVIRONMENTAL MANAGEMENT IN PHILOSOPHICAL PERSPECTIVE

This is a survey of issues that underlie environmental management but are often omitted from purely technical discussions on the subject. Concepts to be examined include the "balance of nature" and the place of evolution in ecology, social Darwinism in practice, industrialization and the use of technology, and environmental degradation under alternative political systems. After a broad review, these concepts will be used as the frame of reference for an examination of environmental questions associated with power generation, such as the ecological effect of waste heat discharge. Also listed for credit as Environmental Affairs 245.
Semester 2 Mr. Puccia

287 AQUARIUS: PLANNING FOR URBAN WATER RESOURCES

Refer to course description under Geography 287. Also listed for credit as Environmental Affairs 287.
Semester 1 Mr. Warrick

HAZARD RELATED COURSES

226 TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT

Refer to course description under Geography 226. Also listed for credit as Environmental Affairs 226.
Semester 2 Mr. Kates

238 ISSUES IN PUBLIC HEALTH

Refer to course description under Biology 238. Also listed for credit as Environmental Affairs 238.
Semester 1 Mr. Reynolds

278 SEMINAR ON NUCLEAR POWER

This is a survey of major technical and social issues relevant to the evaluation of nuclear power. After an historical introduction, the course will deal with salient aspects of nuclear technology, the prospects for the breeder, and the special economic problems of capital intensive, long-term investments. Special attention will be given to the problems of nuclear power regulation, including risk assessment, safety policies, siting policy, and assessment of public attitudes in the wake of the Three Mile Island incident.
Semester 2 Mr. Hohenemser

SPECIAL PROJECT COURSES

270 SPECIAL TOPICS IN SCIENCE, TECHNOLOGY AND SOCIETY
Students will do independent readings and/or experimental work. Offered for variable credit.
Semesters 1, 2 Staff

271 HONORS IN SCIENCE, TECHNOLOGY AND SOCIETY
Students will do supervised research leading to an undergraduate thesis. Offered for variable credit.
Semesters 1, 2 Staff

RELATED COURSES IN OTHER DEPARTMENTS

Environmental Affairs 210 ENVIRONMENTAL PROTECTION
Refer to course description under Environmental Affairs.
Not offered 1979–80 Staff

Environmental Affairs 216 ENVIRONMENTAL IMPACT ASSESSMENT
Refer to course description under Environmental Affairs.
Semester 1 Mr. Erickson

Geography 014 INTRODUCTION TO PHYSICAL GEOGRAPHY AND ENVIRONMENTAL MANAGEMENT
Refer to course description under Geography.
Semester 2 Mr. Lewis

Geography231 SEMINAR: POLITICS AND THE ENVIRONMENT
Refer to course description under Geography.
Semester 2 Mr. Kasperson

Geography 251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT
Refer to course description under Geography.
Semester 1 Mr. Kasperson

History 290 THE FUTURE
Refer to course description under History.
Semester 1 Mr. Von Laue

Screen Studies

See Department of Visual and Performing Arts.

Sociology and Social Anthropology

DEPARTMENT FACULTY

Sidney M. Peck, Ph.D., Associate Professor of Sociology, Department Chair
Edward E. Sampson, Ph.D., Professor of Sociology, Adjunct Professor of Psychology***
Stanford N. Gerber, Ph.D., Associate Professor of Social Anthropology
Robert J. Ross, Ph.D., Associate Professor of Sociology***
Karen Sacks, Ph.D., Assistant Professor of Social Anthropology*
Elizabeth A. Stanko, Ph.D., Assistant Professor of Sociology
Ximena Bunster B., Ph.D., Visiting Associate Professor of Social Anthropology

*On leave 1979–80
***On leave Semester 2, 1979–80

UNDERGRADUATE PROGRAM

The Department of Sociology and Social Anthropology has three major foci: *Social Anthropology*—courses that treat the concept of culture and cultural patterns in comparative fashion; *Social Psychology*—courses that focus on interaction between individuals and groups; and *Structural Sociology*—courses that deal with large scale structure and process at the societal level. For convenience, social anthropology courses are designated with an asterisk (*). While students may emphasize one or another of these areas in their course work, the department does not offer a formal concentration in any of them.

The departmental major consists of nine courses within the department, and, usually, five additional courses in other departments selected from a set of focused options; the selection will be developed through close consultation with a major adviser. The nine departmental courses are to be divided as follows:

I) At least one introductory course chosen from:
   Introduction to Sociology
   Introduction to Social Psychology
   Introduction to Social Anthropology

II) At least one advanced theory course chosen from:
   Sociological Theory: Classical
   Sociological Theory: Contemporary
   Social Psychological Theory: Small Group and Interpersonal Processes
   Topics in Sociological Theory

III) At least one methods course chosen from:
   Sociological Research Methods
   Field Methods
   (From time to time, other methods courses will be offered and may be substituted for the above listing; courses selected from the methods offerings in other departments may, with the consent of the student's adviser, be substituted for a methods course within sociology; the student can meet the methods requirement, but not the course requirement [i.e. nine courses in sociology] by this option.)

IV) At least two courses chosen from the following:
    - Ethnology: Caribbean
    - Political Sociology
    - Race and Ethnic Relations
    - Urban Sociology
    - Social Stratification
    - Deviance
    - Social Psychology Theory: Small Group and Interpersonal Processes
    - Industrial Sociology
    - Social Movements
    - Sociology of Sex Roles

    (From time to time, other courses will be offered and may be substituted for the above listing.)

V) In their senior year or, in selected cases, before that, and in close consultation with their adviser, majors will select one of the following options:

Option A: *Thesis:* This is the equivalent of four full courses in sociology; it is designed for selected students who wish to devote approximately 50 percent of their senior year to a major research problem.

Option B: *Internship:* This is the equivalent of from two to four full courses; it is designed for selected students who seek supervised field training in community or organizational settings.

Option C: *Senior Seminar:* This is the equivalent of two full courses and consists of a year-long seminar devoted to an examination of major themes and issues in sociology. *(Not offered 1979–80).*

Option D: *Course Work:* For those students who do not choose any of the other options, an additional four sociology courses are required; these may include core courses, directed readings, and special projects.

VI) *Related Courses*

In close consultation with their advisers, students will plan a program of additional courses that center on a coherent intellectual focus, which complements the substantive knowledge of and conceptual skills of the department curriculum. Such foci will, most usually, consist of courses taken in another social science department, but they may be interdepartmental, e.g., "urban focus" could include courses in government, geography, history, and/ or economics.

The general expectation of the department is that such related course work will comprise five courses. This expectation may be higher for those who choose foci that entail taking elementary courses in preparation or as prerequisites. Thus, someone with an area study interest in Latin American culture would need elementary language courses in addition to five courses in culture, history, and politics.

GRADUATE PROGRAM

At the present time, the department is not accepting students for the master of arts degree.

COURSES

100 INTRODUCTION TO SOCIOLOGY

This is a general introductory course to the discipline of sociology, intended mainly for students who wish to gain a broad, general overview of the field, its areas of study, methods on inquiry, and conceptions and analyses of society. The central objective of the course is to encourage students to think and feel sociologically.

Semester 1 Mr. Ross
Semester 2 Mr. Peck

105 INTRODUCTION TO SOCIAL PSYCHOLOGY

An examination of the relationship between the individual and the social system. The theories, methods, and findings of social psychology will be examined as they illuminate the major, enduring themes that confront human beings individually and collectively: e.g., the bases of knowledge and understanding; the individual and authority; freedom, reason, and responsibility; development, identity, and individuality; exchange and justice.

Semester 1 Mr. Sampson
Semester 2 Staff

110 INTRODUCTION TO WOMEN'S STUDIES

An overview of the problems, issues, and research on sex role dichotomization and the biosocial systems that produce and maintain them. While particular emphasis will focus on material from sociology and other relevant social sciences, topics from the humanities and the biological sciences also will be considered.

Semester 1 Ms. Bunster

120 INTRODUCTION TO SOCIAL ANTHROPOLOGY*

An analysis of non-Western societies with a focus on social structures. The emphasis will be on the development of a comparative perspective and a nonethnocentric perspective on our own culture. Theoretical and topical interests differ with instructor.

Semester 1 Mr. Gerber

170 THE SOCIAL RESEARCH PROCESS

This course will provide a general introductory survey of various methods employed in social scientific inquiry including, for example, the sample survey, interviewing, questionnaire approaches, experimental methods, etc. The course will examine general issues involved in research design and research evaluation as well as issues involved in selecting methods to suit particular research problems and questions.

Semesters 1, 2 Ms. Stanko

200 DIRECTED READINGS IN SOCIOLOGY AND SOCIAL ANTHROPOLOGY

Offered for variable credit.

Semesters 1, 2 Staff

201 SPECIAL PROJECTS IN SOCIOLOGY AND SOCIAL ANTHROPOLOGY

Offered for variable credit.

Semesters 1, 2 Staff

202 WORCESTER COMMUNITY STUDY

The Worcester Community Study is a research seminar oriented to descriptive evaluation and action research on any facet of the social

structure of the Worcester community. Students who wish to add a research dimension to their special projects, internships, and practica are encouraged to participate in this seminar. Participants in the seminar will be expected to help coordinate small research teams engaged in a long-term study of the Worcester community.
Semester 2 Mr. Peck

205b SMALL GROUP AND INTERPERSONAL WORKSHOP

This is an intensive, unstructured small-group experience designed for students who have completed or are concurrently taking the small-group theory course (291b), and who now wish to enrich their intellectual knowledge by a direct self-analytic group experience. The class will be organized into an unstructured group and will spend the term examining the material generated by this group. The course is offered on a credit/no record basis only.
Semester 1 Mr. Sampson

210 WOMEN AND CRIME

In traditional criminology women's role in the criminal justice system is seldom a topic of focus. This course will concentrate on the role of women, as criminal offenders and as the primary targets of male offenders. We will explore the traditional felony crimes, such as murder, robbery, victimless crimes, prostitution; treatment of women in courts and prison; victimology, such as, rape and battered wives; and women workers within the criminal justice system, such as policewomen, etc.
Semester 2 Ms. Stanko

215 ETHNOMETHODOLOGY

Ethnomethodology, both theory and method, studies the actor's everyday world. This course's objective is to familiarize the student with the phenomena in everyday life. In addition, students will explore the use of video and taped conversation for purposes of analysis.
Not offered 1979–80 Ms. Stanko

220a ETHNOLOGY AND POLITICS OF THE CARIBBEAN*

This course will focus upon various problems in the analysis of the Caribbean culture area. (See also Government 266.)
Semester 1 Mr. Gerber, Mr. Rasmussen

224 ADVANCED TOPICS IN THE ANTHROPOLOGY OF WOMEN

This course will center around discussion of the main intellectual traditions, explaining the universal subordination of women and how it affects their economic, social, and political roles. Cultural dualism in French structuralism, modernization theory, Marxist analysis, developmentalism, as well as marginality theorists' analyses accounting for obstacles in women's participation in national development will be explored. Women in agriculture, the peasant woman, women-headed households around the world, and problems of women in cities are among the key topics discussed. Strong emphasis will be placed on a cross-cultural perspective and on the different ways in which economic development affects women from advanced countries in the Western world and those from Third World nations.
Semester 2 Ms. Bunster

225 SOCIOLOGY OF SEX ROLES

The focus of the course is on the sex role socialization process. This is considered in relation to social class and caste, cultural variables, institutions, and political and psychological effects and implications.

Semester 2 Ms. Bunster

226 SOCIOLOGICAL PROFILE OF AMERICAN JEWISH LIFE

This course will examine past and, primarily, present trends in American Jewish demography, family life, cultural norms, and communal structure. The implications of the encounter between Jewish cultural retentivism and American pluralism and socioeconomic mobility will be compared to those of other ethnic and minority groups in America. Refer to Judaic Studies for further information.

Semester 2 Staff

235 SOCIETY AND CULTURE OF LATIN AMERICA

The aim of this course is to provide the student with a critical overview of modern Latin American society and of the existential conditions under which the masses of Latin Americans live. A broad societal analysis will include ethnographic studies, history, kinship, and network analysis, discussion of social stratification and political participation and lack of it under some of the military regimes, and a description and analyses of culture as specific sets of symbolic representations—shared, learned, and transmitted by all Latin Americans from one generation to the next.

Semester 2 Ms. Bunster

243 POLITICAL SOCIOLOGY

Politics may, for certain purposes, be seen as the result of structures of sentiment and power from which particular policies and institutions emerge. The course examines, in theory and research, class and political behavior, the political economy of power, sources of conflict and stability in modern society, and social movements.

Not offered 1979–80 Mr. Ross

244 RACE AND ETHNIC RELATIONS

The purpose of this seminar is to enable participants to begin to develop a theoretical framework for analyzing problems of racism and to conceptualize solutions to the problems consistent with the analysis.

Semester 2 Mr. Gerber

245 SEMINAR IN THEORETICAL MODELS IN SOCIAL ACTION

A critical evaluation of anthropological, sociological, and literary sources and their application to contemporary social problems.

Not offered 1979–80 Mr. Gerber

246 SOCIAL PLANNING AND SOCIAL POLICY

This seminar will be concerned with the analysis of policy issues related to urban social problems. The seminar will address itself to three major objectives: (1) how social policy is formulated, (2) how social problems are analyzed from the perspective of the policy makers, (3) how social policy addresses problems of social importance in urban society. Students will be introduced to the literature of the field and will be given opportunities to analyze specific social problems.

Not offered 1979–80 Mr. Ross

247 URBAN SOCIOLOGY

The ethnic and other communities of the big cities will be examined through the literature of historical and community studies; these materials will provide the basis for interpreting urbanism and the politics of the recent period. The political machines, the functions of social policy, and the problems of our big cities are some of the broader issues to be discussed.

Semester 1 Mr. Ross

250 CRIMINOLOGY

The course constitutes a survey of 1) whom the criminal justice system processes, 2) how this is done, and 3) what social science has learned about the social nature of crime.

Not offered 1979–80 Ms. Stanko

255 THE FAMILY

Critical, historical, and feminist perspectives on the institutions of marriage and the family. The seminar will consider comparative, historical, and theological analyses of the social role of women vis-à-vis the role relationships inherent in marital institutions.

Semester 1 Ms. Bunster

256 SOCIAL STRATIFICATION

An analysis of the major dimensions of social stratification in contemporary society. Economic class, social status, power, class consciousness, social mobility, and the consequences of class difference are studied.

Semester 1 Mr. Peck

261 CRIMINAL JUSTICE IN AMERICA

The criminal justice system is a complex set of roles and perspectives, traditionally viewed as an integrated unit—processing individuals arrested for criminal offenses. This course is designed to view the criminal justice system as a topic for inquiry into social relations of institutions, which are studied as isolated agencies (i.e., law enforcement, court process, corrections) as well as an "integrated" system as a whole.

Not offered 1979–80 Ms. Stanko

263 DEVIANCE

This course has two fundamental objectives: (1) to introduce the student to the literature, research, and conceptual problems in the field of deviance; and (2) to examine conceptual frameworks out of which contemporary definitions of deviance emerge.

Semester 1 Ms. Stanko

265 SOCIAL MOVEMENTS

This course will discuss the general characteristics of modern social movements with the New Left and other protests of the sixties as extended case examples. Problems of recruitment, organization, and ideology will be analyzed. The form of the course will depend on the size of registration.

Not offered 1979–80 Mr. Ross

267 POLITICAL ANTHROPOLOGY*

This course includes an examination of varying levels of social-political culture. Cultures viewed will include hunters and gatherers, contemporary

Russia, and selected African societies. A certain amount of attention will be given to Caribbean political systems and movements.
Semester 1 Mr. Gerber

270 STUDY OF LIVES

The focus of this course is upon the study of lives, the unique intersection of personal biography and cultural history that can best be appreciated through the careful and intensive examination of a human life. Students will conduct an in-depth study of two lives: their own, through the development and presentation of their autobiography; and the life of a person they select for study and presentation during the term. Prerequisite: permission of instructor.
Not offered 1979–80 Mr. Sampson

271b FIELD METHODS: CONCEPTS AND ISSUES IN ANTHROPOLOGY*

This course will deal with theoretical issues in the conduct of anthropolitical field work, including an intensive survey of the literature, problems, and prospects. In addition, instruction and use of camera, tape recording equipment, etc., involved in field work will be covered. Indivisible.
Not offered 1979–80 Mr. Gerber

271c FIELD METHODS: PRACTICUM IN ANTHROPOLOGY*

This course will include on-site experience, where students will obtain and conduct a limited field research project. Prerequisite: 271b.
Not offered 1979–80 Mr. Gerber

276 DEVELOPMENTAL AND APPLIED ANTHROPOLOGY*

Anthropology, because of its emphasis on a holistic approach of culture, coupled with participant-observation field experience, is uniquely suited to the analysis and direction of cultural change. The purpose of this course is to develop an anthropological perspective with respect to problems of direction, cultural change, intervention, and "modernization." Areas to be discussed include problems of "applied" theory, unintended consequences of institutional change, and psychological and cultural impediments to modernization. Critical attention will be paid to the ethnocentrism of "development" and modernization.
Semester 2 Mr. Gerber

282 INDUSTRIAL SOCIOLOGY

This course is concerned with the study of social relations in the industrial setting. The course will cover the research tradition beginning with the human relations school and extending through the sociology of work and occupations. A special focus of the course will be on workers' organizations and the sociology of labor.
Semester 2 Mr. Peck

288 SEMINAR IN POLITICAL ECONOMY

The seminar will introduce the Marxian mode of analysis and then apply it to some major themes in political sociology. It will use the classical writings of Marx and Engels, but will include work being done by contemporary Marxists, neo-Marxists and their critics. Some of the topics, beyond the introductory material, to be addressed are: class structures and class consciousness, the state in capitalist society, the political economy of

the cities. Students should be prepared to make class presentations and write papers.
Not offered 1979–80 Mr. Ross

290a SOCIOLOGICAL THEORY: CLASSICAL

Beginning with the European writings of the early sixteenth century and extending to the expression of social theory at the turn of the twentieth century, the course focuses on the way in which certain social themes dealing with human relationships were treated by the classic works of outstanding European social philosophers and theoreticians. These social themes refer to issues of value consensus and social conflict, established power and rebellious disorder, the social person and the alienated human. Oriented to a sociology of knowledge perspective, the range of ideas, beginning with Machiavelli and More and ending with Weber and Simmel, are considered in the context of the history and social structure of national capitalism as it emerged in the specific settings of Italy, England, France and Germany.
Not offered 1979–80 Mr. Peck

290b SOCIOLOGICAL THEORY: CONTEMPORARY

Social developments in the United States during the post World War II epoch have given rise to a variety of theoretical views in the field of sociology. Diversity of approach and fragmentation of theoretical stance will be related to significant changes in social structure and political economy of the United States during the past three decades. The relationship between social theory and political ideology will be considered throughout.
Not offered 1979–80 Mr. Peck

291b SMALL GROUP AND INTERPERSONAL PROCESSES

This is an intensive course designed to introduce students to some of the major concepts and theories that have been developed to understand small-group and interpersonal processes. The formulations of Freud, Sullivan, Mead, Bion, exchange theorists, and others will provide the major focus of the course.
Semester 1 Mr. Sampson

296 ADVANCED TOPICS IN CRIMINAL JUSTICE

This course will be concerned with an in-depth view of the current issues in the field of criminal justice. Students will be responsible for developing a project, to include on-site experience.
Semester 1 Ms. Stanko

297a TOPICS IN SOCIOLOGICAL THEORY: THE PERSON AND THE SYSTEM

Everywhere men and women strive for love and personal acceptance, but they receive these only at certain places and times. This course is primarily an analysis of theories of rational efficiency and communal or primary needs in modern society. It compares the orthodox theories of Weber and Parsons with the Marxist paradigm of alienation.
Semester 1 Mr. Ross

297b TOPICS IN SOCIOLOGICAL THEORY: STUDIES IN MARXISM

This seminar will examine some of the basic themes of Marxism through close study of a major primary source, supplemented with class presenta-

tions and secondary reading. The Marxian theoretical and philosophic origins will be explored, and the political economy of Marxism will be introduced.
Not offered 1979–80 Mr. Ross

298 SENIOR SEMINAR IN SOCIOLOGY
This course consists of a year-long seminar devoted to the examination of major themes and issues in sociology. It is the equivalent of two full courses.
Not offered 1979–80 Staff

299 THESIS SEMINAR
The course combines seminar with independent study on selected topics and is intended for senior sociology majors. Each member of the sociology faculty offers a set of topics and thesis issues; students should sign up with the faculty member whose areas of interests are most suited to their own. Emphasis in the course is upon independent work undertaken with faculty guidance and supervision. It is possible to take this as a year-long course that results in the submission of a thesis, thereby making selected students eligible to be considered for departmental honors in sociology. Students are awarded four full course credits.
Semesters 1, 2 Staff

299.9 INTERNSHIP IN SOCIOLOGY
The course consists of supervised field training in community and organized settings. This is the equivalent of from two to four full courses in sociology. Variable credit.
Semesters 1, 2 Staff

ADDITIONAL COURSE WHICH MAY BE OF INTEREST TO MAJORS

History 295 WRITING FOR UPPER DIVISION STUDENTS IN HISTORY AND THE SOCIAL SCIENCES
For description and details, please refer to course listing within the History section.

Spanish

See Department of Foreign Languages and Literatures.

Theater Arts

See Department of Visual and Performing Arts.

Visual and Performing Arts

The Department of Visual and Performing Arts has programs in Art, Music, Screen Studies, and Theater Arts. Majors or concentrations are offered in each of these areas and opportunities for self-designed majors in two or more of the areas are available. Students in other disciplines are invited to participate in the department's courses and programs, or to consider the development of the equivalent of a minor in one of the arts. Combined majors such as math/music, studio art/biology, and sociology/film have been individually designed by students. Throughout the year the department sponsors numerous musical and theatrical performances, film showings, and art exhibitions.

ART

PROGRAM FACULTY

Donald Krueger, M.F.A., Associate Professor of Art, Department Chair, Program Chair

Samuel P. Cowardin III, Ph.D., Associate Professor of Art History

Bonnie L. Grad, Ph.D., Assistant Professor of Art History

Sante Graziani, M.F.A., Associate Professor of Art (Affiliate)

UNDERGRADUATE PROGRAM

Courses in studio art and art history provide opportunities for students to develop understanding and sensitivity in the visual arts of the past and present, to acquire resources for visual thinking and communication, and to engage in personal creative expression. Students may major in art history or studio art, including a program leading to the bachelor of fine arts degree, or they may combine studio and history or use either as a part of a double or self-designed major. Both studio and history courses also can serve as a valuable part of education in the humanities or social or physical sciences.

The Art History Major

The art history major can serve as a meaningful humanistic focus for liberal arts education for students who appreciate art and are interested in its social, cultural, and historic ramifications. It can also provide a foundation for graduate study for highly motivated students interested in teaching, museum and gallery work, arts conservation, or arts management. The major offers opportunity for concentration in areas such as Renaissance and modern art history and permits individual study in areas of special interest.

Specific requirements for the art history major are continually reviewed by the faculty. At present, admission to the major requires at least a grade of B in the two-semester Art 11 foundation (or equivalent courses or superior advanced placement performance) and approval of the program faculty. Students must then complete: four art history courses in a single area (e.g., Renaissance, modern); four art history courses outside this area; four courses outside art, related to the area of concentration; three studio courses; and the senior project in art history.

Requirements for the combined art history/studio major may be obtained from the program faculty or chairman.

The collections and library of the Worcester Art Museum are available to Clark art students and, on occasion, internships for outstanding students may be arranged at the Museum.

The Studio Art Major

The studio art major programs are designed to meet a number of student needs and interests: the satisfaction of personal curiosity about and interest in art; significant involvement in the creative process; or preparation for graduate study and/or a professional career in art, design, education, or art therapy. Two degree programs are offered:

The B.F.A. Program

The bachelor of fine arts degree program is for students with a strong interest in and commitment to art as a career. Admission to the program is highly selective and students are expected to maintain a professional level in their studio work, as well as a high academic average. Continuation in the B.F.A. program is determined by faculty and student reviews at the end of the first and second years. A strong advising program assists students in curriculum planning, in identifying areas of major interest, and in preparation for graduate school or career. The B.F.A., which meets the National Association of Schools of Art studio credit hour requirements, includes: a four course foundation sequence, six "exploratory" studio courses, six studio courses in the student's major area of interest, and two senior project or studio thesis courses. Sixteen liberal arts courses, including art history and related courses from the Department of Visual and Performing Arts, are required. B.F.A. students will need an additional modular term or summer session to complete the 34 course requirement. Transfer students may need additional courses.

The B.A. Program

The bachelor of arts degree program is for students who see studio art as a part of liberal education or who may be undecided about professional interest and commitment. It is a much more flexible program than the B.F.A. and can accommodate interest in art education, art therapy, film and video, or individually designed or double majors. The B.A. program requirements vary depending on the student's area of interest. In general, a minimum of 10 studio courses, including a senior project, two art history courses, and two departmental courses outside the art area is required. Specific curriculum guidelines may be had from the program chairman. Under certain circumstances, students may transfer to the B.F.A. program at the end of the first or, rarely, the second year.

The majority of studio courses for both the B.A. and B.F.A. majors are taken at the School of the Worcester Art Museum, a professional school, which provides the Clark student with significant exposure to professional art and artists. Studio majors may participate in the School of the Worcester Art Museum Annual Student Exhibition. Admission to both studio majors is by portfolio evaluation and permission of the program chairman.

Art history and on-campus studio courses are available to nonmajors, to special students, and to students with combined or self-designed majors. Certain courses at the Worcester Craft Center are also open to nonmajors.

Exhibitions of contemporary art and the work of Clark students are presented throughout the year in the Little Center Gallery. The on-campus Craft Studio offers opportunities for extracurricular involvement in art and craft activities.

COURSES

10 VISUAL FORM AND STYLE

An introduction to the visual arts through analysis of artistic form and style. The physical and expressive qualities of materials, elements of design, and the means of visual expression will be stressed. Stylistic analysis will focus on visual aspects rather than historical development. The aim of the course is to develop visual awareness and verbal facility in dealing with visual material. Extensive practice in descriptive and critical writing. Artistic ability is not expected.
Semester 1 Mr. Cowardin

11 INTRODUCTION TO WESTERN ART I

Ideally, the first half of a two-semester sequence, this course covers

classical, medieval, and Renaissance art. The first several weeks are devoted to an examination of basic elements in the visual arts, and to certain fundamental matters of terminology and approach. Selected works are then discussed as exemplars of style and artistic quality in the context of the leading ideas of their respective eras. Students are encouraged to observe original works in local museums.
Semester 1 Mr. Cowardin

11 INTRODUCTION TO WESTERN ART II

This course surveys the history of Western art from sixteenth century Mannerism to contemporary art. In general, emphasis will be placed on the analysis of style in relation to the specific historical and social environment from which it emerges as well as on the formal development of individual artists. Attention will be given to the major artists in the history of art, such as Rembrandt, Goya, Picasso, Stieglitz, and Rauschenberg. The class will take two field trips to the Worcester Art Museum.
Semester 2 Mr. Cowardin

12 SURVEY OF PAINTING

A general introduction the art of painting, covering a wide range of examples from East and West. The approach is historical only in that the material is taken up more or less in historical sequence, and the stylistic development is viewed against the background of changing ideas. But matters of technique, design, and expression receive due attention.
Not offered 1979–80 Mr. Cowardin

77 INTERNSHIP

Offered for variable credit.
Semesters 1, 2 Staff

87 SPECIAL PROJECTS IN ART HISTORY

Semesters 1, 2, Modular Term Staff

88 DIRECTED READINGS IN ART HISTORY

Semesters 1, 2, Modular Term Staff

89 SPECIAL PROJECTS IN VISUAL ARTS

This is an independent studio art study. Offered for variable credit.
Semesters 1, 2, Modular Term Mr. Krueger

98 SENIOR PROJECT IN STUDIO ART

Semesters 1, 2 Mr. Krueger

99 SENIOR PROJECT IN ART HISTORY

This is individual research culminating in a major paper. Periodic meetings with the staff to evaluate and discuss progress. Required of all majors in art history.
Semester 1, 2 Staff

115 SELECTED SUBJECTS IN MEDIEVAL ART

A brief overview of the main phases of medieval art is followed by a series of student reports intended to illuminate specific subjects or deal with special problems. A maximum of student participation is expected; each member of the course is responsible for at least two reports. Enrollment limited for this course. Prerequisite: one course in art history.
Not offered 1979–80 Mr. Cowardin

120 ITALIAN RENAISSANCE ART: FIFTEENTH CENTURY

The course is concerned with art in the context of developing humanism and rationalism, mainly in Florence, but with excursions into northern Italy. The aim is to delineate the character of early Renaissance art and to distinguish its principal stylistic currents as they move toward confluence in the High Renaissance. Particular attention is given to the ideas of Alberti and some of the intellectuals in the circle of the Medici. Architecture, sculpture, and painting receive approximately equal emphasis.

Not offered 1979–80 Mr. Cowardin

121 ITALIAN RENAISSANCE ART: SIXTEENTH CENTURY

The great figures of the High Renaissance art in Florence and Rome are the focus of the first part of the course. It will try to define, through readings and discussion, the special aesthetic qualities of this particular "classic moment," seen against the political and intellectual background. The course also must confront the difficult questions relating to the evolution of Mannerism, as well as the definition of this phenomenon. Finally, the scene will shift briefly to Venice. Class participation is encouraged and the coverage is kept flexible enough to accommodate it.

Not offered 1979–80 Mr. Cowardin

122 MICHELANGELO AND THE HIGH RENAISSANCE

This course concentrates on Michelangelo's work in architecture, sculpture, and painting, taking into account personal, religious, intellectual, and political influences on his life. His style will be viewed in relation to the Renaissance background as well as the Mannerist trends of the sixteenth century.

Semester 2 Mr. Cowardin

123 VENETIAN ART

Art in the Veneto from the twelfth century through the eighteenth, with emphasis on the Renaissance, will be studied, seeking to define the qualities that distinguish the work of this region, especially in painting. The major figures, such as Palladio and Titian, will be studied in depth in the context of Venetian humanism and other elements of contemporary culture.

Not offered 1979–80 Mr. Cowardin

124 NOTHERN RENAISSANCE PAINTING

This course concentrates on painting in Flanders from Van Eyck to Bruegel. Style, technique, and expression in representative works will be viewed in relation to their own background and to contemporary work in Italy. A secondary focus will be on the impact of Italian influence upon the art of France, Germany, and the Netherlands in the sixteenth century.

Not offered 1979–80 Mr. Cowardin

140 MODERN ART: NINETEENTH CENTURY

This course surveys the revolutionary movements in European art from neoclassicism to postimpressionism, with special emphasis on the development of the avant-garde. Both the formal characteristics of styles and the cultural and social context from which they emerged will be examined. Attention will be paid to the reciprocal relationship between the visual arts: between painting and printmaking throughout the century and painting and photography after 1845.

Semester 1 Ms. Grad

141 MODERN ART: TWENTIETH CENTURY

This course surveys the major European art movements from the turn of the century to World War II. Much attention is given to the various art movements of the decade and a half before World War I, in which all traditional notions of representation were overthrown for either abstract and nonobjective or highly expressive forms of art. One project, the creation of an original work of art, is designed to introduce the student to the formal and critical problems of the modern artist.

Semester 1 Ms. Grad

142 MODERNISM

Imagination: formation of mental images of objects not present to the senses, especially of those never perceived in their entirety. This course is devoted to the study of the modern imagination, as it developed in the art of Europeans and Americans, from the turn of the century to World War II. Two major issues in modernism, expressed as polarities in content and form, will be explored in class lectures and "modernist workshops"—on the one hand, the incorporation of the nonart object (newspapers, ropes, hatracks, playing cards) into the art object, as in Picasso's and Braque's cubist collages and Duchamp's ready-mades; on the other hand, the elimination of reference to the object, as in the abstract, nonrepresentational painting of Kandinsky, Malevich, and Mondrian.

Not offered 1979–80 Ms. Grad

143 ART SINCE 1945

Organized as a survey of contemporary American and European art, this course examines the major movements in recent art including abstract expressionism, environments and happenings, pop art, minimalism, earth art, and the new realism. The increasing importance of the commercial environment, popular culture, and technology will be explored as a major theme in the art of the sixties and seventies. Each student will function in the capacity of an artist, a critic, and an art historian, creating an object, criticizing an exhibit or work of art, and formally analyzing a museum work. By assuming these separate roles, the student may come to terms with relevant formal and critical issues.

Not offered 1979–80 Ms. Grad

144 IMPRESSIONISM

This course explores in depth the styles of the impressionist painters, Manet, Monet, Renoir, Degas, Sisley, and Pissarro. In addition to examining the formal and coloristic characteristics of these artists, the course examines the particular social, economic, and political context from which urban and rural impressionism emerged. Under Napolean III (1851–1870) Paris was physically transformed into a modern city of tree-lined, spacious boulevards, numerous parks, landscaped squares, and public gardens. Impressionist painters painted not only the countryside and seaside resorts, but also the beauty and richness of this changing urban environment. Prerequisite: Art 140 is recommended.

Semester 1 Ms. Grad

147 ART IN SIXTIES AMERICA

The rich and heterogeneous developments in painting, sculpture, architecture, and photography in sixties America form the bases of this course. During this period, the pendulum swings between an abstract art of pure

form and an art that incorporates the real world, bridging the gap between art and life. On the one hand, Kenneth Noland makes a painting consisting simply of colored stripes; on the other Robert Rauschenberg plants a stuffed angora goat on a canvas. Philip Johnson creates monumental buildings that are "sculptures" in themselves, with no relation to their environment; Robert Venturi creates contextual architecture that responds to its existing environment by incorporation of vernacular elements in the design. This course intends to explore the diverse approaches of artists and architects in this decade and to raise questions about the nature of creativity and the function of art in sixties America.
Not offered 1979–80 Ms. Grad

148 LANDSCAPE

Landscape is a study of the changing vision of nature in Western culture as it is expressed in painting and landscape architecture from the Renaissance to the present. The relationship between landscape art and man's changing relationship to the land, due to social, economic, and cultural factors, will be explored in depth. Special attention will be paid to the seventeenth, nineteenth, and twentieth centuries—periods in which the greatest transformations in the landscape occur. Readings in cultural geography and literature will supplement art historical writings.
Not offered 1979–80 Ms. Grad

150 INTRODUCTION TO ORIENTAL ART: ANCIENT NEAR EAST AND INDIA

A preliminary look at the Near East is designed to acquaint the student with the styles and iconography of ancient Mesopotamian and Iranian art as a background for developments in India and central Asia. The major part of the course deals with Indian art from prehistoric times through the period of the Moslem dynasties, and with the spread of Indian culture into Indo-China and Indonesia. Monuments of Buddhist and Hindu art are studied and discussed in the light of the faiths which inspired them. The philosophy, mythology, and iconography of these faiths are the subject of background readings intended to inform the discussion. Aside from its intrinsic value, this material is basic to further study of Buddhist art in China and Japan.
Semester 1 Mr. Cowardin

151 INTRODUCTION TO ORIENTAL ART: CHINA AND JAPAN

The greater part of the course (about two thirds) is devoted to the art of China from the beginnings through the Yuan Dynasty. As an introduction, the course does not pretend to be complete, but singles out for study certain periods and classes of objects, such as Shang and Chou bronzes, Buddhist sculpture, and Sung paintings, at the expense of others, such as ceramics and later paintings. The objective is to arouse interest and develop sensitivity to different artistic points of view and aesthetic values, while laying the foundations for further study. The same approach is carried over to Japan in the remainder of the course, where emphasis is placed on Buddhist sculpture, narrative and landscape scroll paintings, and color woodblock prints.
Semester 2 Mr. Cowardin

160 ARCHITECTURE

An introduction to architecture as an art form, emphasizing style and expression. The stylistic evolution will be followed from ancient Greece to

the present day, with special attention to the structural and expressive potential of material, spatial and functional organization, and environmental factors. Buildings will be studied in the context of contemporary thought and other art forms.
Not offered 1979–80 Mr. Cowardin

164 HISTORY OF PHOTOGRAPHY

From its invention in 1839 to the present, photography has been explored as a versatile medium in numerous fields. It has been used for historical documentation, as in the Civil War photographs of Matthew Brady; for geological and geographical surveying, as in the western landscapes of William Henry Jackson; for social documentation, as in the work of Lewis Hine and Dorothea Lange; for commercial purposes, as in fashion photography and picture postcards; and as purely fine art, as in the work of Alfred Stieglitz. This course examines the history of photography as a social document and as fine art within this interdisciplinary context. It further explores the impact of photography on contemporary popular culture, as an agent that has radically transformed our notions of ourselves and society.
Not offered 1979–80 Ms. Grad

170 VISUAL DESIGN I—TWO-DIMENSIONAL FORM AND COLOR

This is a studio course on campus designed to introduce the student to the nature of visual language and the creative process and to develop abilities for original creative thought and action. Basic two-dimensional studio problems in organization, color relationships, form, space, design, and visual communication are presented. Work in addition to the scheduled studio hours will be required. Open to nonmajors. Enrollment is limited. Prerequisite: permission of instructor.
Semester 1 Mr. Krueger

171 VISUAL DESIGN II—SPACE AND THREE DIMENSIONS

This course is a continuation of 170, to include the study of depth and plastic illusion and basic three-dimensional structural principles and forms; 170 is not a prerequisite, but is recommended. Open to nonmajors. Enrollment limited. Prerequisite: permission of instructor.
Semester 2 Mr. Krueger

172 VISUAL STUDIES

This course title is a general designation for a group of one-semester studiocourses of varying content designed to encourage the development of expressive and communicative visual arts skills. Opportunity also is provided for individual study in traditional, contemporary, and experimental forms and materials. Specific semester topics include: drawing, painting, graphic design, and others to be determined by students' special interests and skills; 170 and 171 or the equivalent are recommended as preparation. Open to nonmajors. Enrollment limited. Prerequisite: permission of instructor. The course may be repeated for additional credit.
Semesters 1, 2 Mr. Krueger

173 VISUAL STUDIES

This course is a continuation of 172. It may be repeated for additional credit. Enrollment is limited. Prerequisite: permission of instructor.
Semester 2 Mr. Krueger

174 CONTEMPORARY DIRECTIONS

This is a studio course, with discussions and museum visits, which will be concerned with a practical, experiential examination of current movements, directions, styles, and attitudes in the visual arts. Specific topics include: the Avant-garde, American Modes, Modern Uses of the Figure, and others to be determined by Modular Term special program requirements. Students will be expected to study in depth, through their own studio work, a specific contemporary style or to experiment with a number of modes. Prerequisite: permission of instructor. The course may be repeated for additional credit.

Modular Term — Mr. Krueger

178 PHOTOGRAPHIC WORKSHOP—COLOR

This course is an advanced workshop for those students who have demonstrated an expertise in the utilization of black and white materials and techniques. It will concentrate on the theory, practice, and aesthetics of color photography. Assignments will be completed using color positive materials (slide transparencies), which the students will process and subsequently make color prints from. Color lab facilities will be provided, and students will be expected to furnish their own 35mm camera, film, and paper. Students will be required to participate in a group exhibition at the end of the term. Enrollment is limited. Prerequisite: permission of instructor.

Semester 2 — Mr. Slatkin

188 PHOTOGRAPHY (at the Craft Center)

This is a beginning course and an intermediate/advanced program that includes practice in the techniques and aesthetics of photography as a medium of personal expression. Lectures, field trips, and discussions supplement studio and darkroom work. A variable setting 35mm or 2¼ × 2¼ camera is required. Open to nonmajors. Prerequisite: permission of program chairman.

Semesters 1, 2 — Craft Center Staff

199 MUSEUM SCHOOL STUDIO COURSES

The title of this course is a general designation for all courses at the School of the Worcester Art Museum. They are open only to studio art majors by portfolio evaluation and permission of the art program chairman. Courses include:

Painting I, II, III
Drawing I, II, III
Life Drawing and Painting I, II
Sculpture I, II
Technics
Illustration I, II
Commercial Design I, II
Photography I, II
Printmaking I, II

See the Museum School catalog and schedule for complete course descriptions and listings.
Semesters 1, 2 Museum School Staff

Note: For additional courses in crafts (on or off campus) please see class schedules. If there is insufficient demand for any off-campus art course listed in this catalog, the University reserves the right to cancel the course.

MUSIC

PROGRAM FACULTY

Wesley M. Fuller, M.Mu., Associate Professor of Music, Program Chairman, Associate Department Chair
Relly Raffman, A.M., George N. and Selma U. Jeppson Professor of Music
Gerald R. Castonguay, Ph.D., Associate Professor of Music
Susan F. Clickner, B.M., Curtis Institute Artist Diploma, Associate Professor of Voice (Affiliate)
Harriet Shirvan, Curtis Institute Artist Diploma, Associate Professor of Piano (Affiliate), Director of Piano Program
Jacques L. Linder, M.Mu., Assistant Professor of Clarinet (Affiliate)
Robert Manero, B.A., Assistant Professor of Violin (Affiliate), Director of Orchestra
Jill Maurer, M.Mu., Assistant Professor of Flute (Affiliate)
Robert Gronquist, A.M., Director of Choral Activities
Allan Mueller, Affiliate in Jazz Piano and Jazz Studies

UNDERGRADUATE PROGRAM

The music program offers (1) a solid, preprofessional course of study for the music major, and (2) courses and activities for the nonmajor. Courses are designed to teach students to listen to music intelligently, to develop a comprehension of music on its own terms, to master basic skills of music and apply them creatively, and to acquaint students with representative works from various periods of music history.

The Music Major

The music major includes the following courses:

- Theory: 121 Prerequisite: Music 120 (Rudiments of Music) or placement examination
- Theory: 122, 123, 124, 125
- Music History: 11, 12, 13, 14, 15, 16

The major who is following a concentration in performance may, with permission of the faculty, waive the 11 and 122 requirements.

- Performing Groups: a minimum of four semesters in 107, 117, 127, 130, or 137
- Related areas: a full course in art, theater art, or screen studies; or a full course in aesthetics.
- A minimum skills test, including sight-singing and dictation at a level of proficiency necessary for the successful pursuance of the major, must be passed during the sophomore year. A keyboard proficiency test must be passed during the junior year.

Major Concentration Areas: The professionally oriented major may, by permission, concentrate in composition, theory, history, or performance. This concentration is achieved through individual tutorial work usually undertaken only in the senior year; the exception is the performance concentration in which private lessons are taken throughout the major program. These concentrations result in various types of final projects including papers in historical research and theoretical research, compositions, and, in the case of the performance concentration, a senior recital preceded by appearances on student recitals. The performance concentration also requires a senior seminar dealing with stylistic analysis of the music to be performed on the senior recital. The music program stresses the advantages of combining such professional musical development with the humanistic breadth offered by a strong liberal arts college.

Although the music program does not offer specific courses in music education, a major may take courses in the Education Department and prepare for public school teaching. Within the Department of Education, a student may arrange for study in music curriculum and practice teaching. The thorough training within the music program, in combination with work in the Department of Education and the college in general, provides both a specialized and broad training for the prospective music teacher.

Performing Organizations: Nonmajors and majors are offered opportunities to perform in a diversity of organizations, including the Choral Society, the Worcester Consortium Orchestra, Instrumental Chamber Ensembles, and the Jazz Workshop.

Private Lessons: Private lessons in a variety of areas are offered for nonmajors and majors, with or without credit. (See Music 18 in the course offerings for further information.)

Placement Test: Prospective students who are considering a music major, are urged to contact the chairman of the music program and arrange for a placement test. This test, while not required, enables the faculty to assess the present musical development of the student and offer more informed advice. In some cases, it is possible to offer advanced theory placement as a result of the test. The test may be administered at Clark or through an authorized person at the student's present place of study.

Auditions: Students wishing to follow a performance concentration should arrange for an audition by contacting the chairman of the music program.

INTRODUCTORY COURSES

10 INTRODUCTION TO MUSIC

Designed for the nonmajor, this course is a prerequisite for entrance into all music history courses. Its goal is to expand the concept of the musical experience and to develop discriminating listeners. The course also provides an introduction to the music program as it is taught jointly by several members of the department. The course offers an introduction to principles of rhythm, pitch, timbre (and their notations); the principles of structure; the aesthetics of music; specific forms including fugue, sonata-form, variations, etc; and selected historical styles.

Semesters 1, 2 Staff

120 RUDIMENTS OF MUSIC

This course is an introduction to the fundamentals of music; no previous experience is necessary. The course includes notation, ear-training, sight-

singing, score reading, and elementary melodic and harmonic organization. The course satisfies the prerequisite for credit in Music 18, and entrance to Music 121.
Semester 2 Staff

MUSIC HISTORY

11 MEDIEVAL AND RENAISSANCE PERIODS

Beginning with early Christian chant, this survey includes a study of the medieval song and motet, the growth of polyphonic secular and sacred music extending through the sixteenth century, culminating with the study of the Renaissance mass and madrigal. Works are performed in class, and scores are used for the majority of works studied. Prerequisite: 10, 120, or permission of instructor. Offered in alternate years. (Formerly Music 12.)
Not offered 1979–80 Mr. Castonguay

12 BAROQUE PERIOD

This is a survey of music from 1600 to 1750. This course deals with the origins and growth of vocal and instrumental genres (opera, oratorio, cantata, sonata, concerto, etc.) and the wide variety of formal types closing with the works of Bach and Handel. When possible, works are performed in class, and scores are used for works studied. Prerequisite: 10, 120, or permission of instructor. Offered in alternate years. (Formerly Music 13.)
Not offered 1979–80 Mr. Castonguay

13 CLASSICAL PERIOD

This survey of the music from the 1720s to the early decades of the nineteenth century focuses on the Italian, French, and Viennese styles. Special emphasis is given to the music of Haydn, Mozart, and Beethoven and the important musical genres of chamber music, symphony, and opera. Minature scores are required for some of the works studied.
Semester 1 Mr. Castonguay

14 ROMANTIC PERIOD

This course surveys the music of the major composers of the nineteenth century. The musical style and selected works of Schubert, Mendelssohn, Schumann, Chopin, Brahms, Tchaikovsky, Wagner, and others are studied and placed within the literary and artistic setting of nineteenth century society. Minature scores are required for some of the works studied.
Semester 2 Mr. Castonguay

15 TWENTIETH-CENTURY MUSIC I

This course is a survey of early twentieth-century masterworks. Representative composers include: Debussy, Ravel, Prokofiev, Stravinsky, Bartok, Hindemith, Schoenberg, Berg, and Webern. Offered in alternate years. Prerequisite: 10 or 120.
Semester 2 Mr. Raffman

16 TWENTIETH-CENTURY OF MUSIC II

This course studies important works composed primarily since 1950. Composers include Stravinsky, Cage, Carter, Boulez, Messiaen, Stockhausen, and others. Offered in alternate years. Prerequisite: 10 or 120. (Formerly Music 119.)
Not offered 1979–80 Mr. Fuller

17 THE MUSIC OF JOHANNES BRAHMS

The course considers Brahms as man and musician in the latter half of nineteenth-century Vienna. Detailed analyses of his chamber and orchestral music, lieder, and keyboard works are undertaken. Whenever possible, works will be performed live in class. Although scores will be provided in the majority of cases, students will be expected to provide several of their own purchase for extended study. Prerequisite, 10, 120, or permission of instructor. (Formerly Music 16.)

Not offered 1979–80 Mr. Castonguay

19 WORLD MUSIC

Musical styles of cultures not in the western European tradition are studied. Specific topics vary each time the course is presented. Musics of India, Africa, Japan, China, and Iran are some of the recurring areas presented. This course may be repeated. Prerequisite: permission of instructor.

Semester 1 Mr. Fuller

20 CHAMBER MUSIC

This course deals with a survey of selected works of the major composers in the field of chamber music from Haydn to Stravinsky. Trips to concerts in the surrounding area will be made whenever feasible. Prerequisites: 10, 120, or permission of instructor.

Not offered 1979–80 Mr. Castonguay

113 J.S. BACH AND HIS MUSIC

This course focuses on the study of Bach and his music. It investigates the social, historic, and cultural setting of Bach's era, and, in particular, it encompasses an intense study of his music including the early cantatas and organ works, the instrumental music from his Cothen period, and, finally, the mature cantatas of his Leipzig years. When possible, works will be performed in class and scores will be provided for the majority of works studied.

Prerequisite: 10 or 120. Offered in alternate years.

Semester 1 Mr. Castonguay

114 BEETHOVEN: THE MAN AND HIS MUSIC

This is a study of Beethoven as man and artist. This course explores the social and historical background of Beethoven's Vienna and centers on the study of selected works from the important genres (symphony, chamber music, and sonata) throughout Beethoven's career. Minature scores are required for a number of works studied. Prerequisite: 10, 120, or permission of instructor. Offered in alternate years.

Semester 2 Mr. Castonguay

118 SENIOR TUTORIAL IN MUSIC HISTORY

This course is for majors only. Offered as a full course. Prerequisite: permission of instructor.

Semesters 1, 2 Staff

132 JAZZ HISTORY

The course centers around a study of the evolution of jazz style from its nineteenth-century beginnings to the present day: African roots, minstrels, ragtime, Dixieland, swing, bop, progressive, cool, free-form, and third-

stream. A research paper and a final exam are required. Offered in alternate years. Offered as a half course.
Not offered 1979–80 Mr. Raffman

MUSIC THEORY

121 PRIMARY THEORY

This course is a study of the structure of tonal music and includes analytical and compositional problems in homophonic, monodic, and polyphonic textures, basic orchestration, ear-training, sight-singing, and conducting. Prerequisite: 120 or entrance examination (given at first class meeting). Offered through the year. Divisible course. (Formerly Music 176.)
Semesters 1, 2 Mr. Raffman

122 THEORY: MODAL COUNTERPOINT

Contrapuntal styles in two-, three-, and four-part textures of major composers of the fifteenth and sixteenth centuries are analyzed and used as a foundation for compositional assignments. Twentieth-century modal polyphony is also studied. Prerequisite: 121. Offered in alternate years.
Not offered 1979–80 Mr. Fuller

123 THEORY: EIGHTEENTH-CENTURY COUNTERPOINT

This course deals with compositional and analytical problems in the eighteenth-century contrapuntal idiom; two-and three-part inventions, canon, and fugue. The thoroughbass practice of the seventeenth and eighteenth centuries is explored. Final project: the composition of a three- or four-voice fugue. Prerequisite: 121. Offered in alternate years.
Not offered 1979-80 Mr. Raffman

124 THEORY: NINETEENTH-CENTURY PRACTICE

This course deals with problems in analysis, composition, and orchestration in the chromatic style of the nineteenth-century. Works of Beethoven, Chopin, Schumann, Wagner, and Brahms are analyzed and used as compositional models. As well, the harmonic language of impressionism, with its emphasis on scalar control, is examined. Prerequisite: 121. Offered in alternate years.
Semester 1 Mr. Raffman

125 THEORY: TWENTIETH-CENTURY PRACTICE

Compositional techniques of major twentieth-century composers are studied and used as a basis for analysis and compositional assignments. Prerequisite: 124 or permission of instructor.
Not offered 1979–80 Mr. Fuller

128 SENIOR TUTORIAL IN COMPOSITION

This course is for majors only. Offered as a full course. Prerequisite: permission of instructor.
Semesters 1, 2 Staff

131 JAZZ THEORY

This course includes a study of the rhythmic/harmonic/melodic structures of jazz, the scalar basis of improvisation, and voicing practice as it pertains to scoring for small and large ensembles. Prerequisite: 120 or passing of

placement examination in rudiments. Offered in alternate years.
Not offered 1979–80 Mr. Raffman

133 TUTORIAL IN JAZZ COMPOSITION

The student writes original scores for performance by workshop ensemble. Prerequisites: 131 and permission of instructor.
Semesters 1, 2 Mr. Raffman

138 SENIOR TUTORIAL IN THEORY

This course is for majors only. Offered as a full course. Prerequisite: permission of instructor.
Semesters 1, 2 Staff

SPECIAL OFFERINGS

88 DIRECTED READINGS

This is a sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

89 SPECIAL PROJECTS

Students conduct independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

90 DIRECTED STUDIES IN ELECTRONIC MUSIC

This is advanced work in any of the main areas of electronic music: composition, hardware or software design, psychoacoustics. Work may center on either analog (synthesizer) or computer music. Resources of the Tri-college Electronic Music Program are made available to students. Prerequisite: 140 or permission of instructor.
Semesters 1, 2 Mr. Fuller

135 SEMINAR: THE COMPOSER AND SOCIETY

The basic theme for the seminar deals with the relationship between the artist and society. Topics will revolve around the effects that institutions, whether governmental, religious, economic, or sociomusical, have upon the artistic life of the composer. Psychological and artistic effects upon the composer and various approaches taken by composers to find and maintain artistic identity and integrity will be explored. Projects will focus on periods and composers decided upon by the students and the instructor. Nonmajors and majors are welcome in the seminar.
Not offered 1979–80 Mr. Castonguay

140 INTRODUCTION TO ELECTRONIC MUSIC

This course is part of the Tri-college Program in Electronic Music. Its goal is to provide a greater understanding of electronic music as a natural, historical, and artistic result of musical and technological achievements of the twentieth century. It begins with parallel discussions of the physical description of sound and of pre-1959 musical developments and continues into the three major phases in the history of electronically produced sound, the processing of natural and electronic sound sources with tape

recorder and laboratory methods, the voltage controlled synthesizer, and the techniques of computer generated sound. A group of important musical works will be studied. The course will include directed work in the analog synthesizer studios. The course is team taught by two composers and a physicist.
Semester 1 Mr. Fuller, Mr. Jasperson (WPI), Mr. Korde (Holy Cross)

170 IN-FORM-ATION: MEANING THROUGH STRUCTURE IN MUSIC, LITERATURE, THEATER, AND EVERYDAY TALK

This course explores the ways in which form creates meaning. A set of common concepts is used to look at qualities of structure in a variety of creative experiences. Our goal is to develop in the student the ability to recognize the significance of forms, whether they occur in art or in everyday life. The course assumes that some of the most meaningful insights into a particular subject may be gained by bringing to bear upon it the critical methods of other areas of knowledge. The course is listed for credit as Comparative Literature 170, Music 170, and Philosophy 149.
Semester 2 Mr. Anderson, Mr. Fuller, Mr. Spingler

299.9 INTERNSHIP IN MUSIC

Offered for variable credit.
Semesters 1, 2 Staff

PERFORMANCE

18 PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE

Areas offered in 1979–80 include: piano, jazz piano, voice, clarinet, flute, classical guitar, and violin. Lessons may be taken for credit or noncredit. Prerequisite for credit: successful completion of Music 120 or the passing of the entrance examination to Music 121. No credit is awarded to beginners. Beginners are welcome in all areas except jazz piano. Nonmajors, and majors not concentrating in performance may receive one quarter credit per semester or one half credit per semester depending on length of lesson. Majors who are accepted as concentrators in performance may receive one credit per semester during their junior and senior years. Maximum number of credits: nonmajors, three; majors not in performance concentration, four; majors in performance concentration, six. Offered for variable credit.
Semesters 1, 2 Staff

130 JAZZ WORKSHOP

The course includes ensemble performance practice with weekly rehearsals through the year. An audition is required. Credit is possible for those concurrently enrolled in or having previously passed 131. Maximum transcript credit allowed is one full course; offered as a half course.
Semester 1, 2 Mr. Raffman

134 CHORAL MUSIC AND CONDUCTING

Styles of choral music from different periods will be studied with the aid of scores and recordings. Students will learn basic choral conducting techniques. Prerequisite: 121 or permission of instructor. Offered at discretion of department.
Staff

148 SENIOR TUTORIAL FOR PERFORMANCE CONCENTRATION
Majors concentrating in performance will analyze historically and theoretically the music they will perform on their senior recital. A term paper is required.
Semesters 1, 2 — Staff

The following musical activities are open to all students, graduate and undergraduate alike. Auditions are held during the first week of Semester 1. Although no credit is awarded, the transcript of any undergraduate who completes the assigned performance requirements will include a listing of the particular activity for which he or she was registered.

107 CHAMBER MUSIC ENSEMBLES
The number of small ensembles is determined by the performing talent in a given year. Admission is by audition.
Semesters 1, 2 — Mr. Castonguay

117 CLARK CHAMBER CHORUS
This is a small, specialized singing group chosen by the conductor from the large Clark Choral Society. Admission is by audition.
Semesters 1, 2 — Mr. Gronquist

127 CLARK CHORAL SOCIETY
The Choral Society is a chorus of 40 to 50 voices; it presents two major concerts each year on the Clark campus. Admission is by audition.
Semesters 1, 2 — Mr. Gronquist

137 WORCESTER CONSORTIUM ORCHESTRA
The orchestra is made up of students from various Consortium institutions and presents two major concerts each year. Admission is by audition.
Semester 1, 2 — Mr. Manero

SCREEN STUDIES

PROGRAM FACULTY

Anthony W. Hodgkinson, Associate Professor of Screen Studies, Program Chair, Associate Department Chair
Charles H. Slatkin, M.F.A., Lecturer in Film/Video/Photography

UNDERGRADUATE PROGRAM

The media of the screen—film, television, video—have now become an all-pervading art form. No educated person can fail to note (even at the most elementary level) what the screen is doing to our society and *vice-versa.* The program in screen studies is designed to help the student acquire a basic critical understanding and appreciation of our youngest arts. A full understanding of the screen arts involves two related activities: (1) the viewing, discussion, and evaluation of a large number of significant works; and (2) initial attempts, through simple film and/or video production exercises, to express oneself in a technically demanding medium.

The emphasis of most courses is on the viewing, discussion, analysis and assessment of screen works—films, television programs, etc. The courses are designed to focus on the historical and social impact of the screen media, their aesthetics and techniques. The production courses are deliberately set at an introductory, elementary level; there is no intention of providing professional training in film or video.

There is no major available in screen studies *per se,* but there are numerous possibilities for student-designed majors and (for art majors) a studio major with emphases on the screen media in relation to other liberal arts.

COURSES

88 DIRECTED READINGS

A sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor. Variable credit.

Semesters 1, 2 Staff

89 SPECIAL PROJECTS

Independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Variable credit.

Semesters 1, 2 Staff

101 INTRODUCTION TO SCREEN STUDIES I: THE ELEMENTS OF SCREEN LANGUAGE

A survey of the varied techniques used in the making of all screen communications (film, television, video): the invention of the language, silent film narrative, editing, music, speech and sound. Lecture/screenings, analyses of two or three feature films, term papers, and readings. This course or 103 is a prerequisite for other screen studies courses. Open to freshmen.

Semester 1 Mr. Slatkin

103 INTRODUCTION TO SCREEN STUDIES II: SCREEN LITERACY

This seminar will discuss and explore the effects of a communications revolution which is changing our society from a word-dominated culture to an image-dominated one. Lectures, viewings, and discussions will explore and interpret the basic structure of this new language. This course or 101 is a prerequisite for other screen studies courses. Enrollment is limited to 20 students.

Semester 2 Mr. Slatkin

199 ELEMENTARY SCREEN PRODUCTION

A practical workshop in super 8mm film and production. Students will complete six films which will be analyzed and criticized. Prerequisite or corequisite: 101 or 103. Limited to 14 students.

Semester 2 Mr. Slatkin

200 THE FILM STUDIO TEAM

In a series of lecture/screenings, the contributions to the feature film of each of the major members of the studio team—writer, director, actor, etc.—are examined, and two or three feature films are analyzed in detail. Term papers and readings. Prerequisite 101 or 103.

Not offered 1979–80 Mr. Hodgkinson

201 ASPECTS OF SCREEN HISTORY

Under this general heading, various facets of the 80 years of world cinema and television are explored in a series of lecture/screenings and discussion seminars. Content varies each time the course is taught, and it may be taken more than once. Prerequisites: 101 or 103. This year, the course will explore the history of British cinema between 1933 and the 1960s.

Semester 1 Mr. Hodgkinson

211 SCREEN AND SOCIETY

Thematic explorations of the ways in which the screen media have reflected/affected their contemporary society. Content varies each time the course is taught, and it may be taken more than once. This year, a study will be made of "message films." Lectures, screenings, and discussion seminars. Prerequisite: 101 or 103.

Semester 2 Mr. Hodgkinson

221 SCREEN AUTEURS

A continuing series of lecture/screenings and discussion seminars in which an examination is made of the canon of work of individuals, be they producer, director, writer, cameramen, etc., who qualify as "auteurs" (i.e., primary "authors" of a film or, conceivably, a television program or series). The individual(s) studied vary each time the course is offered, and the course may be taken more than once. The celebrated American director, Preston Sturges, will be the subject of this year's course. Prerequisite: 101 or 103.

Semester 1 Mr. Hodgkinson

231 SCREEN LITERATURE

A seminar in which some of the significant books of film theory, aesthetics, history, etc., are studied in detail and depth. Prerequisite: 101 or 103 plus one other Screen Studies course. Enrollment is limited to 20 students.

Semester 1 Mr. Hodgkinson

241 LITERATURE AND THE SCREEN

This is a course in which relationships between popular literary works and significant films are explored in detail and depth. Also included in the reading will be books of film and literary theory, aesthetics, history, etc. Offered at the discretion of the department. (See also English 14.) Prerequisite: Screen Studies 101 or 103 or equivalent.

Semester 2 Mr. Hodgkinson, Mr. Elliott

THEATER ARTS

DEPARTMENT FACULTY

Neil R. Schroeder, Ph.D., Associate Professor of Theater Arts, Acting Program Director

UNDERGRADUATE PROGRAM

The program in Theater Arts is designed to give students both practical and scholarly experience in all phases of theater. Courses are open to qualified undergraduates who are willing to devote the time and energy necessary. They are designed to develop theater artists with a sound humanistic education and to prepare those who are interested for graduate training in educational and professional theater.

Students who take courses in theater arts will be expected, as part of their course work, to participate in production of the Theater Arts Program at Clark University. All Clark students are eligible to audition for plays and work on productions.

The General Program

Through the Worcester Consortium and interdepartmentally at Clark, courses are available in the following areas: theater history and criticism, dramatic literature, theater education, acting and directing, technical theater and design, and playwriting. All courses without prerequisites are open to any student on an elective basis, and advanced courses are available on an elective basis to those students who have the necessary prerequisites.

The Theater Arts Major

The major program trains students in the fundamentals of various theater disciplines and prepares them for further training and experience. Advanced work in theater is accomplished through Directed Readings (Theater Arts 88), Special Projects (Theater Arts 89), and advanced tutorials, some of which will be created specifically for each student. Advanced tutorials, in areas other than acting and directing, will be created to meet student demand whenever possible.

The theater arts major has a choice of two concentrations: a Performance/Production sequence or a Dramatic Literature/Theater History sequence. The major consists of a minimum of 16 full courses in the following categories:

1) Core curriculum. Required of *all* majors, four full courses as follows: T.A. 10, How Does a Play Work; T.A. 11, Voice and Diction; T.A. 14, Basic Acting; and T.A. 120, Basic Technical Theater & Design I.
2) Drama/History Core. Required of *all* majors, three full courses from either or both semesters of any of the following: T.A. 151, Theater in Western Civilization; T.A. 154, Modern Drama; T.A. 155, English Drama.
3) Major Concentration. Three additional courses in the theater arts major's area of concentration, as follows:
    a) The *Dramatic Literature/Theater History* sequence could include any of the following: those parts of T.A. 151, 154, and 155 not taken as the Drama/History Core; T.A. 164, The American Musical Theater; T.A. 185, Tennessee Williams; T.A. 286, Seminar: Ibsen; and any additional or future theater arts courses which are concerned with drama, theater history, dramatic or performance theory or criticism, or aesthetics of the theater.
    b) The *Performance/Production* sequence could include any of the following:

T.A. 15	Intermediate Acting
T.A. 16	Stage Movement
T.A. 18	Fundamentals of Directing
T.A. 121	Principles of Stage Management
T.A. 122	Basic Technical Theater and Design II

4) *Theater Arts Electives.* Three additional courses in theater arts, as follows:
   a) The *Dramatic Literature/Theater History* concentration could include courses in acting, directing (where permitted), technical theater, design, voice, movement, or additional courses in theater history or dramatic literature taught in Theater Arts or other departments.
   b) The Performance/Production concentration could include:

T.A. 17	Advanced Stage Movement
T.A. 19	Directing Seminar
T.A. 123	Scene Design
T.A. 124	Lighting Design
T.A. 204	Seminar in Acting

5) *Related Fields.* Three courses in related fields, usually chosen from the following: art, film, music, English, philosophy, history, classics, comparative literature, and foreign languages and literatures.

The theater arts "minor" or double major: Students who wish to design a program in Theater Arts that will serve as a minor program or part of a double major are welcome to do so under direction. Each program will be designed to meet the individual's specific need. While some may wish to develop a program independent of other concerns, others may wish to integrate their program with disciplines such as music, fine arts, film, English, modern languages and literatures, philosophy, etc.

All students who plan to major in theater arts or to take a significant portion of their program in theater arts should consult the department early in their careers, for many of the fundamental courses should be taken before the junior year. In some cases courses taught in the Consortium in theater *may* be substituted for Clark courses, with permission of the chairman.

COURSES

10 HOW DOES A PLAY WORK? CRITICAL ANALYSIS AND WRITING

The class will study a small group of plays representing several styles, modes, and eras of Western drama, with special emphasis on formal analysis—study of the form and structure of each play. By means of class discussion, the oral interpretation of scenes from the plays, and the reading of critiques, which illustrate various critical approaches to the drama, the student will be encouraged to arrive at a personal evaluation of the plays. Each student will be required to write several papers in which he/she handles a particular critical problem or critical approach and expresses a personal evaluation of the plays. Student papers will be carefully corrected and evaluated by the instructor and, in some cases, by the class, and opportunities for revision will be provided when desirable. No prerequisite. Limited enrollment.

Semester 1 — Mr. Schroeder

11 VOICE AND DICTION

The course is an intensified phonetic approach to articulation and voice production with some emphasis on speech for the stage and for public occasions. Each student will be required to master the International Phonetic Alphabet to the point where it is an effective tool for ear training and articulation. Several laboratory sessions will be provided for the student to record and listen to his/her voice and for individual coaching by

the instructor. No prerequisite. Offered at the discretion of the department.
Staff

14 BASIC ACTING

The course offers a systematic approach to acting and development of the "inner life" through analysis, improvisation, and scene study. There will be a performance workshop. Additional lab hours will be required. No prerequisite.
Semesters 1, 2 Staff

15 INTERMEDIATE ACTING

This course offers an approach to scene study and character analysis, including presentation of scenes from all genre of theater. Additional lab time is required. Prerequisite: Theater Arts 14.
Semester 2 Staff

16 BEGINNING STAGE MOVEMENT

Students will study the basic principles of stage movement techniques and extension of the emotional range of the body. Prerequisites: Theater Arts 14 and permission of chairman. May be taken concurrently. Offered at the discretion of the department.
Staff

ADVANCED MOVEMENT FOR THE THEATER

Students will receive further development of stage movement technique. They will do work in rhythm and dynamics through involvement in choreographed selections. Styles of movement will be studied. Prerequisites: Theater Arts 14 and 16 and permission of chairman. Offered at the discretion of the department.
Staff

18 FUNDAMENTALS OF DIRECTING

This is an introduction to the principles of directing for the stage through theory, practical application, discussion, and field trips to local professional theaters. Additional lab hours are required. No prerequisite.
Staff

19 DIRECTING SEMINAR

Students will study advanced problems of interpretation and concept; the role of the director as creative and interpretive artists; relationship to designer, stage manager, and actors. Additional lab time is required. Prerequisites: Theater Arts 18 and permission of instructor. Offered at the discretion of the department.
Staff

88 DIRECTED READINGS

This is a sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

89 SPECIAL PROJECTS

Students will conduct independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Semesters 1, 2 Staff

120 BASIC TECHNICAL THEATER AND DESIGN I

This is a fundamental course of design principles as applied to the technical aspects of various styles of theatrical production. Techniques of drafting for scenery and lighting are introduced. Set construction and lighting methods are applied in laboratory sessions and specific crew assignments. No prerequisite.
Semester 1 Staff

121 PRINCIPLES OF STAGE MANAGEMENT

This is a course in the techniques of stage management. Emphasis is on the varied responsibilities involved. In-class scene work will give opportunities to discover various problems of stage management. Students will receive practical experience by serving on the working crews and in managerial positions on productions. Some previous theater experience required. Offered at the discretion of the department.

Staff

122 BASIC DESIGN AND TECHNICAL THEATER II

This course is a continuation of Theater Arts 120. Emphasis is on design of scenery, costumes, props, and lighting for various styles of production. Further theoretical study includes analysis of design aspects of live productions during the semester. Practical experience will be gained through regularly scheduled laboratory hours. Prerequisite: Theater Arts 120 or permission of instructor.
Semester 2 Staff

123 SCENE DESIGN

This course offers theoretical, historical, and practical study of scene design. Development of scene design through the history of theater will be studied through designing and researching plays from several periods and styles of theater. Students will be expected to work on construction and painting of a production during the semester. Prerequisites: Theater Arts 120, 122. Offered at the discretion of the department.

Staff

124 LIGHTING DESIGN

This course involves theoretical, historical, and practical study of lighting design, carrying through research from Theater Arts 123. Analysis of live productions will be used to enhance understanding of the theoretical aspects of lighting design. Students will have practical application in designing lighting for at least one production during the semester. Prerequisites: Theater Arts 122, 123. Offered at the discretion of the department.

Staff

151 THEATER IN WESTERN CIVILIZATION

This course is a survey of theater and drama from ancient Greece to the twentieth century. The course will consider the form and substance of theatrical presentations and the study of several representative plays from each important era and national theater. The first semester will cover the period from the Greeks to the Renaissance; the second semester will cover the period from the seventeenth century to the twentieth century. No prerequisite. Offered at the discretion of the department.

Mr. Schroeder

154 MODERN DRAMA

This is a survey of Western drama and theater from Ibsen to the present. The first semester traces the development of modern realistic drama and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major postwar movements and the radical dramatic forms they have produced. No prerequisite.

Semesters 1, 2 Mr. Schroeder

155 ENGLISH DRAMA

This is a course in the major periods of English drama and theater before the twentieth century. The first semester covers the medieval theater and the drama of Tudor, Jacobean, and Caroline England. The second semester covers the period from 1660 to the twentieth century. No prerequisite.

Semesters 1, 2 Mr. Schroeder

164 THE AMERICAN MUSICAL THEATER

While some attention will be paid to the history of the musical theater in the United States, primary emphasis in this course will be on the study and analysis of several important contemporary musicals, their books, their lyrics, their music, and their productions, in an effort to determine form and structure, trends and innovations. Each student will be expected to study the book and lyrics for each show; in addition, each student will be expected to listen to tapes of the music for each show. These tapes will be on reserve in the Goddard Library. No prerequisite.

Semester 2 Mr. Schroeder

185 TENNESSEE WILLIAMS

This is an intensive study of the work of Tennessee Williams, concentrating on his development as an artist. Students will make an evaluation of his contribution to drama and literature through reading and analysis of his works. No prerequisite, but some experience in drama and literature is expected. Offered at the discretion of the department.

Mr. Schroeder

199 HOLY CROSS COURSES

All theater arts courses taken at the College of the Holy Cross are numbered 199. Content is differentiated by title only. During each registration period, students should consult the list of courses available in the Theater Arts Office.

204 SEMINAR IN ACTING STYLES I

This course offers continuing exploration of techniques in characterization. It is a laboratory in analysis and development of a major role. Scenes from the modern theater will be studied. Prerequisites: Theater Arts 14, 15, and permission of instructor. Offered at the discretion of the department.

Staff

205 SEMINAR IN ACTING STYLES II

This course offers further exploration of techniques in building a character-laboratory in scene study. Students will study scenes from the classical theater and development of a major role. Prerequisites: Theater Arts 14, 15, 204, and permission of instructor. Offered at the discretion of the department.

Staff

206 ADVANCED TUTORIAL IN ACTING III
This course is offered at the discretion of the department.
Staff

207 ADVANCED TUTORIAL IN ACTING IV
This course is offered at the discretion of the department.
Staff

242 ADVANCED TUTORIAL IN DIRECTING I
This course is offered at the discretion of the department.
Staff

243 ADVANCED TUTORIAL IN DIRECTING II
This course is offered at the discretion of the department.
Staff

281 SEMINAR: SPECIAL STUDIES IN RENAISSANCE DRAMA
This is a seminar devoted to the intensive study of a small group of dramatists or of a special dramatic problem of the Renaissance. Independent study and research is emphasized. Prerequisite: permission of instructor. Offered at the discretion of the department.
Mr. Schroeder

286 SEMINAR: IBSEN
This is an intensive study of the major plays of Ibsen and criticism of his life and work. Consideration will be given to his development as an artist. Independent research and study is emphasized. Prerequisite: permission of instructor. Offered at the discretion of the department.
Mr. Schroeder

Women's Studies

PARTICIPATING FACULTY
Ximena Bunster B., Ph.D., Visiting Associate Professor of Social Anthropology, Program Director
Cynthia H. Enloe, Ph.D., Professor of Government*
Serena S. Hilsinger, Ph.D., Professor of English
Bernard Kaplan, Ph.D., Professor of Psychology
Anne Buttimer, Ph.D., Associate Professor of Geography
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French
Sharon P. Krefetz, Ph.D., Associate Professor of Government
Walter E. Wright, Ph.D., Associate Professor of Philosophy
Elizabeth A. Stanko, Ph.D., Assistant Professor of Sociology
Lois Wasserspring, M.A., Visiting Assistant Professor of Government
Ann Seidman, Ph.D., Professor of International Development (Affiliate)

*On leave 1979–80

Although Clark does not offer a major in Women's Studies, it recognizes the appropriateness of offering courses that reflect the concerns of women from the perspective of different disciplines. Each year, courses that speak to the social roles, biological theories, and cultural formulations of women's and men's positions in society are offered in a number of departments. Interested students are encouraged to design a "concentration" to supplement their traditional disciplinary based majors. The following sequence of courses is recommended for such a concentration: Introduction to Women's Studies, one advanced course, one seminar, and an internship in Women's Studies. Students also may self-design a major to include issues related to Women's Studies.

The following is a partial list of Clark's Women's Studies course offerings; more detailed information can be obtained from the Department of Sociology and Social Anthropology.

COURSES

INTRODUCTION TO WOMEN'S STUDIES

Refer to course description under Sociology 110.
Semester 1 Ms. Bunster

COMPARATIVE POLITICS OF WOMEN

Refer to course description under Government 108.
Not offered 1979–80 Ms. Enloe

MODERN FICTION BY WOMEN WRITERS

Refer to course description under English 116.
Semester 2 Ms. Hilsinger

WOMEN AND PHILOSOPHY

Refer to course description under Philosophy 139.
Semester 2 Mr. Wright

WOMEN IN THE MALE LITERARY IMAGINATION

Refer to course description under French 167.
Not offered 1979–80 Ms. Kaufmann-McCall

THE PSYCHOLOGY OF LOVE AND HATE

Refer to course description under Psychology 169.
Semester 2 Mr. Kaplan

WOMEN WRITERS

Refer to course description under French 171.
Semester 1 Ms. Kaufmann-McCall

WOMEN AND POLITICS

Refer to course description under Government 175.
Semester 2 Ms. Krefetz

WOMEN AND CRIME

Refer to course description under Sociology 210.
Semester 2 Ms. Stanko

ADVANCED TOPICS IN THE ANTHROPOLOGY OF WOMEN

Refer to course description under Sociology 224.
Semester 2 Ms. Bunster

SOCIOLOGY OF SEX ROLES

Refer to course description under Sociology 225.
Semester 2 Ms. Bunster

EROS AND FEMINISM
Refer to course description under Comparative Literature 226.
Not offered 1979–80 Ms. Kaufmann-McCall

SEMINAR: VIRGINIA WOOLF
Refer to course description under English 266.
Semester 1 Ms. Hilsinger

VALUES IN GEOGRAPHY
Refer to course description under Geography 268.
Semester 2 Ms. Buttimer

Faculty

Members of the faculty and officers for the 1979–80 are listed alphabetically with their titles, degrees, and years at Clark University.

PRESIDENT

MORTIMER H. APPLEY, Ph.D., President of the University, Professor of Psychology, B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950; D.Sc., York University, 1975 (1974–)

EMERITI

KARL O.E. ANDERSON, Ph.D., Professor of English A.B., Harvard University, 1927; A.M., 1928; Ph.D., 1942. (1945–76)

KARL J.R. ARNDT, Ph.D., Professor of German, Emeritus. (1950–1974)

PAUL S. CLARKSON, J.D., Curator Emeritus. (1969–1979)

LYDIA P. COOK, B.S. Registrar, Emeritus. (1932–1966)

JESSIE C. CUNNINGHAM, Ph.D., Associate Professor of English, Emeritus. (1957–1975)

TAMARA DEMBO, Ph.D., Professor of Psychology, Emeritus. (1953–1972)

GEORGE E. HARGEST, M.B.A., Associate Professor of Economics, Emeritus. (1942–1971)

SHERMAN S. HAYDEN, Ph.D., Professor of International Relations, Emeritus. (1946–1973)

HOWARD B. JEFFERSON, Ph.D., LL.D., L.H.D., Litt. D., President, Emeritus. A.B., Denison University, 1923; Ph.D., Yale University, 1929; LL.D., Denison University, 1948, Hillsdale College, 1952, Northwestern University, 1958; L.H.D., Colgate University, 1951, Assumption College, 1956; Litt. D., College of the Holy Cross, 1962; L.H.D. Clark University, 1967; LL.D., Emerson College, 1968; Litt. D., Anna Maria College, 1972. (1946–1967)

VERNON JONES, Ph.D., Professor of Educational Psychology, Emeritus. (1926–1968)

FREDERICK W. KILLIAN, LL.B., Associate Professor of Sociology, Emeritus. (1947–1970)

DWIGHT E. LEE, Ph.D., L.H.D., Jacob and Frances Hiatt Professor of European History, Dean of the Graduate School, Emeritus. (1927–1967)

RAYMOND E. MURPHY, Ph.D., Professor of Economic Geography, Emeritus, (1946–1968)

J. RICHARD REID, Ph.D., Professor of Romance Languages, Emeritus. (1944–1976)

HENRY J. WARMAN, Ph.D., Professor of Geography, Emeritus. (1943–1974)

FACULTY AND OFFICERS OF INSTRUCTION

VERNON AHMADJIAN, Ph.D., Professor of Botany. A.B., Clark University, 1952; A.M., 1956; Ph.D., Harvard University, 1960. (1959–1968, 1969–)

MARILYN S. ALBERT, Ph.D., Assistant Professor of Psychology, Affiliate, B.A., Rochester University, 1963; M.A., McGill University, 1964, 1964, Ph.D., McGill University, 1979. (1978–)

RICHARD S. ALCORN, M.A., Assistant Professor of History. B.A., Monmouth College, 1969; M.A.A, University of Illinois, 1972. (1979-)

MICHAEL P. ALEXANDER, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Rice University, 1968; M.D., Stanford University, 1972.

HARRY C. ALLEN JR., Ph.D., Professor of Chemistry, Dean of the Graduate School. B.S., Northeastern University, 1948; Sc.M., Brown University, 1949; Ph.D., University of Washington, 1951. (1969-)

NANCY AMSTUTZ, Ed.D., Lecturer in Education. B.A., Jackson College, Tufts University, 1958; M.Ed., Tufts University, 1959; Ed.D., Clark University, 1979. (1977-)

ROY S. ANDERSEN, Ph.D., Professor of Physics, Department of Physics Chairman. A.B., Clark University, 1943; A.M., Dartmouth College, 1948; Ph.D., Duke University, 1951. (1960-)

ALBERT A. ANDERSON, Ph.D., Associate Professor of Philosophy. B.A., Morningside College, 1960; M.A., Boston University, 1963; Ph.D., 1971. (1973-)

ALBERT G. ANDERSON JR., M.L.S., University Librarian. B.S., North Dakota State University, 1952; M.A., University of Wyoming, 1953; M.L.S., University of Illinois, 1956. (1978-)

MORTIMER H. APPLEY, Ph.D., President; Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950. (1974-)

ELANA ASHLEY, Ph.D., Lecturer in Hebrew Language & Literature. B.A., Queens College, 1970; M.A., New York University, 1973; Ph.D., New York University, 1977.

ROBERT W. BAKER, Ph.D., Professor of Psychology; Director, Psychological Services Center. A.B., Hobart College, 1947; Ph.D., Clark University, 1953. (1954-)

RAYMOND E. BARBERA, Ph.D., Professor of Romance Languages, Chairman, Comparative Literature Program. A.B., Brooklyn College, 1947; A.M., University of Arizona, 1948; Doctor en Letras, Universidád Nacional de Mexico, 1949; Ph.D., University of Wisconsin, 1958. (1953-)

THOMAS C. BARROW, Ph.D., Professor of American History (Affiliate). B.A., Harvard University, 1952; M.A., 1954; Ph.D., 1961. (1967-)

DAVID M. BEAR, M.D., Assistant Professor of Psychology (Affiliate). B.A., Harvard University, 1965; M.D., Harvard Medical School, 1971.

JAMES F. BEARD JR., Ph.D., Professor of English. A.B., Columbia College, 1940; A.M., Columbia University, 1941; Ph.D., Princeton University, 1949. (1955-)

ROBERT N. BECK, Ph.D., Professor of Philosophy; Department of Philosophy Chairman. A.B., Clark University, 1947; A.M., Boston University, 1948; Ph.D., 1950. (1948–1967; 1968-)

D. FRANK BENSON, M.D., Professor of Psychology (Affiliate). B.A., University of North Dakota, 1950; B.S. (in Medicine), 1951; M.D., Northwestern University, 1953. (1974-)

LEONARD BERRY, Ph.D., Professor of Geography; Codirector of International Development Program; B.Sc., University of Bristol, 1951; M.Sc., 1956; Ph.D., 1969. (1969-)

ROGER BIBACE, Ph.D., Professor of Psychology. A.B., University of British Columbia, 1949; Ph.D., Clark University, 1957. (1957-)

GEORGE A. BILLIAS, Ph.D., Professor of American History. A.B., Bates College, 1948; A.M., Columbia University, 1949; Ph.D., 1958. (1962-)

CHARLES S. BLINDERMAN, Ph.D., Professor of English. A.B., New York University, 1952; A.M., 1953; Ph.D., Indiana University, 1957. (1962-)

JOHN BLYDENBURGH, Ph.D., Professor of Government and International Relations; Department of Government and International Relations Chairman. B.A., Harpur College, 1965; Ph.D., University of Rochester, 1969. (1975–)

DANIEL R. BORG, Ph.D., Associate Professor of European History, Department of History Chairman. A.B., Gustavus Adolphus College, 1953; A.M., Yale University, 1957; Ph.D., 1963. (1961–)

MARTYN J. BOWDEN, Ph.D., Professor of Geography. B.A., London University, 1957; M.A., University of Nebraska, 1959; Ph.D., University of California, Berkeley, 1967. (1964–)

DAEG S. BRENNER, Ph.D., Professor of Chemistry, Department of Chemistry Chairman. B.A., Rensselaer Polytechnic Institute, 1960; Ph.D., Massachusetts Institute of Technology, 1964. (1967–)

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Academic Calendar 1979–1980

FALL SEMESTER

Friday, September 7
Registration for undergraduate and graduate students

Monday, September 10
First day of classes

Friday, September 14
Last day for graduate students to register

Monday, September 17—Tuesday, September 18
Final registration for all students

Friday, October 26
Mid-semester break begins after last class

Wednesday, October 31
Classes resume

Wednesday, November 21
Thanksgiving vacation begins after last class

Monday, November 26
Classes resume

Thursday, December 13
Last day of classes

Friday, December 14—Monday, December 17
Reading days

Tuesday, December 18—Friday, December 21
Fall examinations

Friday, December 21
Christmas vacation begins after last examination

SPRING SEMESTER

Friday, January 18
Registration for all students

Monday, January 21
First day of classes

Monday, January 28—Tuesday, January 29
Final registration for all students

Monday, March 3
Last day to submit application to
registrar for degree to be awarded 5/11/80

Friday, March 7
Spring vacation starts after last class

Monday, March 17
Classes resume

Friday, April 25
Last day of classes

Saturday, April 26—Tuesday, April 29
Reading days

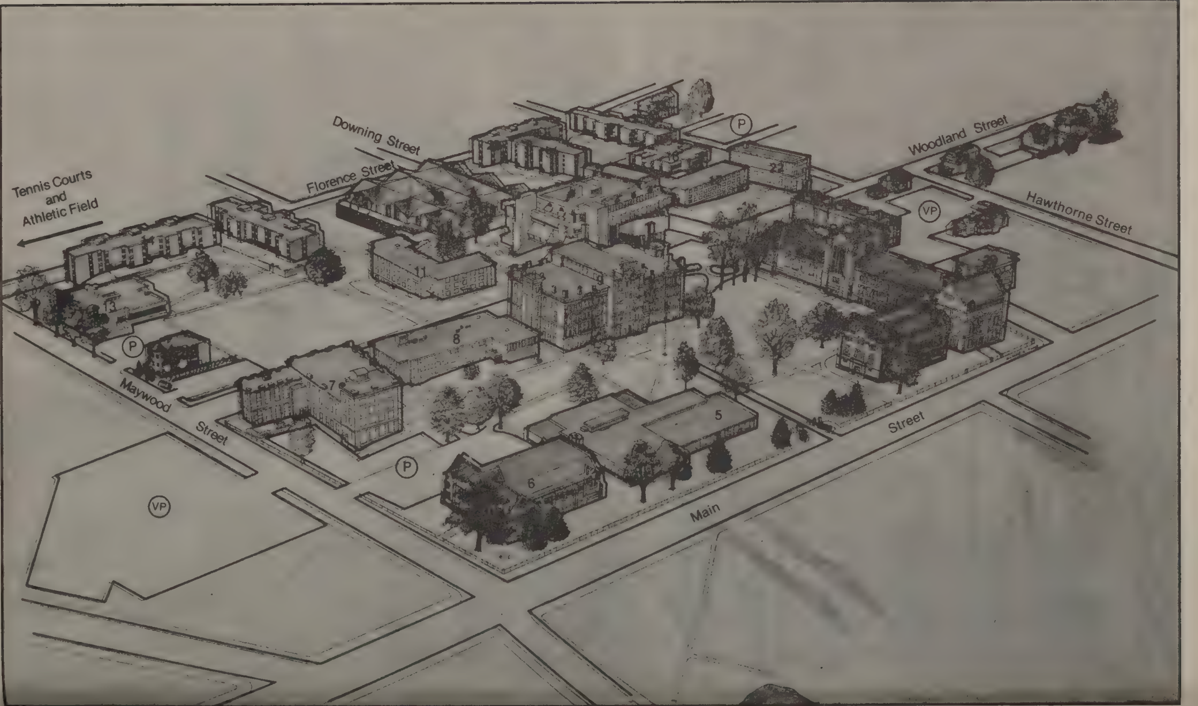
Wednesday, April 30—Saturday, May 3
Spring examinations

Sunday, May 11
Commencement

MODULAR TERM

Monday, May 12
Modular Term begins

Saturday, June 28
Modular Term ends


Tennis Courts and Athletic Field
Downing Street
Florence Street
P
Woodland Street
Hawthorne Street
VP
22
11
13
P
8
7
Maywood Street
5
P
6
Main Street
VP

MAP KEY

1. Downing Administration Center
2. Atwood Hall
3. Academic Center
4. Geography Building
5. Jefferson Hall
6. Alumni Gymnasium
7. Science (Bio-Physics) Building
8. Jeppson Laboratory
9. Jonas Clark Hall (COPACE)
10. Robert Hutchings Goddard Library
11. Bullock Hall
12. Potter Laboratory
13. Dana Commons
14. Dana Dormitory
15. Hughes Hall
16. Student Activities Center
17. Wright Hall
18. Little Center for the Visual and Performing Arts
19. Dodd Hall
20. Johnson Hall
21. Sanford Hall
22. Estabrook Hall
23. Physical Plant
24. Alumni House
25. English House
26. Carriage House
27. Department of Management
28. Cooperative Nursery; Commuter Lounge
29. Downing Residence

P Parking Area

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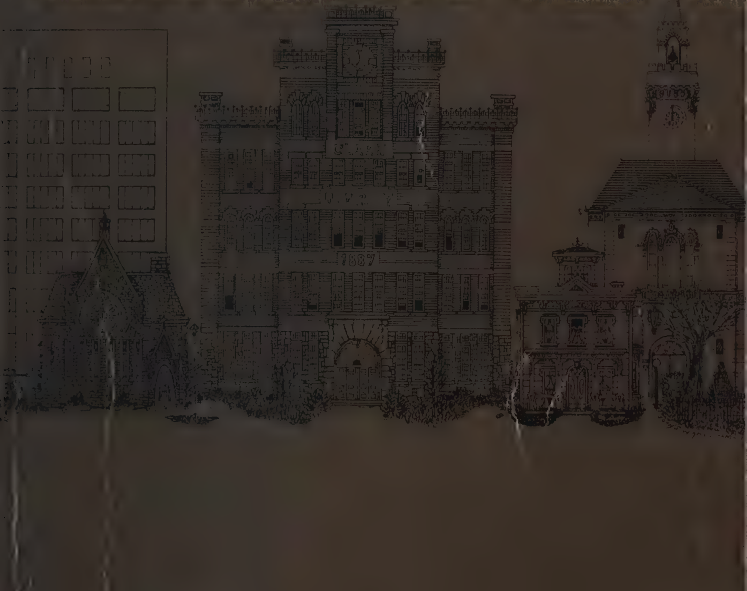

CLARK UNIVERSITY 1980-1982

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This catalog is published by the Clark Communications Office.

Academic Calendar 1981–1982

FALL SEMESTER
Wednesday, September 2
Registration for new undergraduate students

Thursday, September 3
Registration for returning undergraduates and all graduate students

Friday, September 4
First day of classes*

Monday, September 7
Labor Day, no classes

Tuesday, September 8
Classes resume

Friday, September 11
Last day for graduate students to register

Monday, September 14—Tuesday, September 15
Final registration for all undergraduate students

Friday, October 16
October break begins after last class

Wednesday, October 21
Classes resume

Wednesday, November 25
Thanksgiving vacation begins after last class

Monday, November 30
Classes resume

Thursday, December 10
Last day of classes

Friday, December 11—Monday, December 14
Reading days

* "University Monday": Monday class schedule in effect

Tuesday, December 15—Friday, December 18
Fall examinations

Friday, December 18
Winter vacation begins after last examination

SPRING SEMESTER

Monday, January 18
Registration for all students

Tuesday, January 19
First day of classes

Friday, January 22
Last day for graduate students to register

Monday, January 25—Tuesday, January 26
Final registration for all undergraduate students

Monday, March 1—Friday March 12
Senior clearance for degree to be awarded 5/16/82

Friday, March 12
Spring vacation begins after last class

Monday, March 22
Classes resume

Friday, April 16
Last day for theses/dissertations to be handed in for degrees to be awarded 5/16/82

Thursday, April 29
Last day of classes

Friday, April 30—Monday, May 3
Reading days

Tuesday, May 4—Friday, May 7
Spring examinations

Sunday, May 16
Commencement

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About Clark University

A private, coeducational, liberal arts university with a Graduate School and a College of Professional and Continuing Education, Clark is a teaching and research institution at the frontiers of the arts and sciences. The oldest graduate university in New England and the second oldest in the nation, Clark opens the door between academic study and life achievement. The heritage of Clark is rich, providing a foundation on which today's scholars, teachers, and students are building.

Internationally known scholars have worked, taught, and lectured at Clark, and the students of the University have not only come from around the world, but have gone on to become leaders in many fields, in many nations. The influence of the University has been extended through professional journals and societies, including *Economic Geography* as well as the American Psychological Association and the American Physical Society, both founded at Clark.

Some of the names of Clark scholar/teachers are well known beyond the world of academe: Robert H. Goddard, the father of the space age; Hudson Hoagland and Gregory Pincus, coinventors of "the pill"; Albert A. Michelson, the first American Nobelist in science; and Franz Boas, the major influence on American anthropology.

Clark today is no less dynamic than it has been in the past. Especially through interdisciplinary programs, students and scholars are examining such issues as alternative energy sources, environmental impacts, the history of the American family, management of radioactive wastes, the hazards of technological growth, the spread of deserts, and the development of the Third World.

The Robert Hutchings Goddard Library is the academic heart of the University and contains 370,000 volumes and 50,000 microform volumes and subscribes to 2,300 periodicals. Large and small campus facilities—some recently remodeled—are used for theater, music, and dance, as well as art exhibitions. A new student activities center offers facilities for virtually every sport and has a competition-size swimming pool. Campus buildings range from modern dormitories to Victorian era academic and administrative buildings.

Clark features small classes and seminars; close relationships among students, faculty, and administration; exceptionally strong interaction between graduate and undergraduate programs; and unusual opportunities for independent study. Clark offers the intellectual resources of a respected graduate institution within the context of a small New England school. There are intimate seminar and laboratory settings, student participation in faculty research projects, and a dedicated, inquisitive, intellectual environment. For nearly one hundred years, Clark has held fast to a theme of academic excellence.

The Undergraduate College

The role of Clark University in undergraduate education is that of a small college dedicated to advanced learning within the context of a university. The University's emphasis upon intellectual and scholarly achievement and the extensive resources of its nationally recognized Graduate School provide unique advantages for the college.

In the spring of 1973, the University adopted the concept of the university-college as the ideal toward which all undergraduate academic planning and program development should be directed. The university-college concept seeks to integrate graduate and undergraduate education, developing in students intellectual competence, personal maturity, and well-developed skills in analysis, communication, and critical thinking. Programs are structured so that students assume increasing responsibility for their own learning.

Clark recently has instituted the Introductory Program, a structured set of courses designed to: supplement introductory-level work in the incoming student's proposed field, acquaint students with skills in critical thinking and knowing that are needed for self-directed learning, and provide a framework within which an incoming student, in consultation with a faculty adviser, can select an organized pattern of study during the student's first two years in the University. Thus, the Introductory Program has two parts: critical thinking courses and perspectives courses.

I. *Critical Thinking:* Every course in the University involves work in critical thinking. At the introductory level, however, two types of courses place special emphasis on the cultivation of skills in this area. Each student will be required to take *two* courses, one from each of these areas:

A. *Verbal expression:* A set of courses offered in many different disciplines that place special emphasis on the relationship between writing and critical thinking as practiced in the context of that discipline.

B. *Formal analysis:* A set of courses offered in several departments that place special emphasis on logical and algebraic modes of thinking.

II. *Perspectives:* Each student will be required to take *three* courses (from different departments or programs), one each from three of the following categories:

A. *The Aesthetic Perspective* develops visual and aural skills and stresses the perception and expression of form.

B. *The Historical Perspective* builds the capacity to understand the contemporary world in the larger framework of tradition and history.

C. *The Natural Scientific Perspective* includes the principal methods and results of the systematic study of the natural world.

D. *The Comparative Perspective* studies contemporary human diversity as expressed in geography, language, culture, or political systems.

E. *The Values Perspective* studies the dimension of value in all domains of life and learning.

Each perspective is important in the development of a balanced view, but inevitably students will work in a number of perspectives within a major program. Therefore, the three required perspectives courses should be selected in consultation with the adviser and should be taken from categories that complement the perspectives dominant in the proposed major field. A list of the courses in each perspective will be available at registration.

A major at Clark involves study in one of the various departmental and interdepartmental programs of the college and results in the bachelor of arts degree. The undergraduate major is a program of study anchored in a particular discipline but specifically structured to include courses in related disciplines. This concept recognizes that breadth of knowledge must be maintained and achieved concurrently with specialization. Particular attention is placed on the interrelation of the major programs within the University and early research opportunities.

A major consists of from 12 to 19 courses taken from those designated by the department. No department may require a student to take more than 19 courses in the major, but a student may take more than 19 courses if he/she meets the other requirements for graduation.

Academic Programs

A student may major in art (art history, studio arts, or fine arts, the latter two being offered through a cooperative program with the School of the Worcester Art Museum), biology, chemistry, computer science, economics, English, foreign languages (French, German, Spanish, romance languages, or a self-designed combination), geography, government and international relations, history, mathematics, music, philosophy, physics, psychology, sociology and social anthropology, or theater arts. Interdisciplinary majors are offered in biochemistry; business/management; comparative literature; international development and social change; and science, technology and society. Courses in American studies, classics, education, environmental affairs, Hebrew, Judaic studies, Russian, screen studies, and women's studies are offered, but departmental majors for bachelor degree candidates are not available. Detailed descriptions of all majors and programs can be found under the departmental listings.

Any student can design his/her own major focusing on a body of knowledge not within the bounds of existing majors or departments. With the advice of an advisory committee of three faculty members, the student establishes a major program, which must be approved by the Undergraduate Academic Board. Student designed majors must include a balance between upper and lower division courses and be approved no later than the start of the second semester, junior year.

INTERDISCIPLINARY DEPARTMENTAL MAJORS

BIOCHEMISTRY

The biochemistry major at Clark provides a comprehensive foundation in all areas of this contemporary discipline. A small, selective program, it serves students with basic interests in health-related sciences. Those who are attracted to biomedical laboratory technology or medical school will find this program and its strong instrumental and biophysical emphasis valuable. For more information, refer to the departmental listing.

BUSINESS/MANAGEMENT

Students interested in a management career in a profit or non-profit organization (business, government, education, healthcare delivery system, religious institution, etc.), and not interested in further graduate or professional studies, should consider majoring in business/management. Skills useful for a career, or additional training, are developed while the student acquires the breadth and depth essential to personal and professional growth. The program draws upon a variety of disciplines, integrating them into a program that is practical as well as broadly educational. For more information, refer to the departmental listing.

COMPARATIVE LITERATURE

This major allows the student of literature to transcend the boundaries of any one national literature, period, or genre. Comparative literature students are encouraged to combine such areas as philosophy, sociology, psychology, and history with their specific interests in language and literature. For more information, refer to the departmental listing.

COMPUTER SCIENCE

The computer science major currently under development at Clark is designed for the education of computer scientists with special skills in programming, software, and systems design. The basic goal of the program is to produce a sophisticated user of the computer who is able to apply his/her expertise in other areas. For more information, refer to the Mathematics Department listing.

INTERNATIONAL DEVELOPMENT AND SOCIAL CHANGE

The International Development and Social Change Program focuses on questions of equity, growth, and development at a time when Third World countries are exerting increasing influence in the world's economic, political, and social systems. Intended to serve students from the developing world and the United States, the program provides a forum for diverse perspectives. Its hallmark: a unique combination of academic training and field research. Not only are students made aware of broad issues in international development, but they are trained in the basic skills of resource management and social and economic analysis. Many prepare for careers as planners, managers, and educators in public and private organizations that deal with the world's developing nations; others choose further study in graduate and professional schools. For more information, refer to the departmental listing.

SCIENCE, TECHNOLOGY AND SOCIETY

Clark is one of only a few universities in the country to offer an undergraduate major in the interdisciplinary field of science, technology and society. The Science, Technology and Society (STS) Program is designed for students who are basically inclined toward science and who wish to contribute to the solution of complex problems in such areas as energy, environmental protection, or control of technological hazards. The program offers some 15 regular courses spanning these areas, as well as a variety of special project and internship experiences (often in conjunction with research being conducted at the new Center for Technology, Environment, and Development). These courses and projects serve not only STS majors but also science and math students, who often find it attractive to diversify their program of study by taking an STS elective or even becoming a double major with STS. For more information, refer to the departmental listing.

INTEGRATED UNDERGRADUATE-GRADUATE PROGRAMS

To help bridge undergraduate and graduate education, Clark has established several integrated programs that allow students to complete requirements for bachelor's and master's degrees at an accelerated pace. Because undergraduates are granted admission to these special programs before receiving their undergraduate degrees, they can begin to fulfill advanced degree requirements during their junior and senior years.

Each bachelor's/master's degree program is career oriented and spans several disciplines; each provides participants with the knowledge and skills needed for entry-level professional positions, and normally covers a three-year span, beginning in the junior year and leading directly to a master's degree. The bachelor's degree is awarded en route to the master's. The programs provide students with the knowledge and skills to enter a profession directly or to continue in a Ph.D. program elsewhere, emphasizing interdisciplinary education based on a common core of course work and opportunity for individual professional interests. Formal application for admission to these programs is required. Transfer students interested in making application to these programs should direct inquiries to the Admissions Office.

The University has approved programs of this type in comparative literature, environmental affairs, international development and social change, and management. A five-year program leading to a master's degree in public administration is in the final stages of development. In addition, the Department of Geography offers a five-year B.A./M.A. program and a seven-year B.A./Ph.D. program open to a limited number of highly qualified students.

Eventually, other integrated undergraduate-graduate programs will be added until a network of such programs is available as a new set of options in the university-college. Descriptions of available programs are included within departmental listings.

SPECIAL OPPORTUNITIES FOR STUDY

THE EXTENDED UNIVERSITY

Since Clark is a member of the Worcester Consortium for Higher Education, students may enroll for one course each semester at Anna Maria College, Assumption College, the College of the Holy Cross, Worcester Polytechnic Institute, Worcester State College, University of Massachusetts Medical School, or Becker, Quinsigamond, and Central New England Colleges.

Over four thousand students have cross-registered under the consortium arrangement since 1968. Through the "extended University" Clark students immediately have available to them increased programs and course options. All of this is available at no extra charge to students or their home institutions.

Students from Holy Cross, Worcester Polytechnic Institute, and Clark University have worked together on a water pollution project; consortium students have been involved in a lead-paint testing program; engineering students from Worcester Polytechnic Institute, Massachusetts Medical School, and Quinsigamond Community College have worked with Clark students as a research unit for the Worcester Department of Public Health to conduct an infectious disease study. A health studies option, which arranges student internships in health care organizations and internships with research scientists in laboratory settings, is available through the "extended university" as defined by the Worcester Consortium. A music option also is available to stimulate intercollegiate participation in performing groups, to encourage cross-registration in music courses, and to make available concentrated study for students with extensive music backgrounds. Courses taken at consortium institutions should not duplicate those taught at Clark. Approval of the department chairman or, where necessary, the dean of the college is required. Students enrolled in the day college may not enroll independently at other consortium institutions and receive Clark credit. To help students select cross-registration courses, the Consortium Office compiles a master course list by subject. This list appears prior to registration and is available in the Registrar's Office.

WRITING AT CLARK

Emphasizing the need for writing throughout the curriculum, Clark offers interdisciplinary, departmental, and special Writing Center programs. The required freshman Verbal Expressions Program offers courses in several disciplines, including art, English, history, linguistics, philosophy, screen studies, and science, technology and society. In many of these courses, class work is supplemented by peer writing groups. Beyond the freshman course, departments such as English, History, and Biology offer courses in basic, intermediate, and advanced expository writing as well as in science, social science, and creative writing. Supplementing the curriculum, Clark's Writing Center provides individual tutoring and noncredit workshops for all interested students. Writing Center offerings are not limited to remedial work, but are flexibly designed to help students at all levels achieve clear, correct, graceful writing.

DIRECTED READINGS AND SPECIAL PROJECTS COURSES

Most departments offer directed readings or special project courses, which may be entered with the permission of the instructor concerned. Directed Readings courses comprise a sequence of structured readings on a given topic approved and directly supervised by the instructor. Special Projects courses involve independent research by the student on a particular problem, as in laboratory work or field study. Both types of courses are offered for variable course credit but not to exceed a full course except by petition to the College Board. Students may take up to two full course credits in Directed Readings, Special Projects, or some combination of the two in a given one-semester period. There is no limit on the total number of such courses that may be counted toward the B.A. degree.

NONTRADITIONAL EXPERIENCES

Academic experiences outside the normal curriculum (*e.g.*, internship experiences, off-campus research, study at nonaccredited institutions) are eligible for course credit. To qualify, an experience must involve an extension, embodiment, or illustration in some significant way of previous or concurrent systematic academic work. It must take place under competent supervision, and the learning involved must be formally evaluated by a Clark faculty member. The goals and structure of the experience must be agreed to by the instructor and the student *prior* to the beginning of the experience. Course credit will not be given for work that duplicates previous course work or other prior educational experiences. Students seeking additional information should contact the dean of the college.

INTERNSHIPS

More than ever before, students are seeking to integrate formal education with applied experiences. They wish to tie together theoretical and practical knowledge. For many an internship offers an opportunity to achieve this end.

An internship is an opportunity for a student to spend a semester working part or full time outside the University and to integrate this work experience with his/her academic program. Successfully completed internships may be awarded University credit toward the undergraduate degree. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent systematic academic work. It also must take place under competent supervision by an agency sponsor and the learning involved must be formally evaluated by a Clark faculty member.

Interested students should contact the Internship Office, for further information.

INTERNATIONAL PROGRAMS

Clark University is committed to encouraging a stronger Clark presence abroad and a stronger international presence at Clark. The International Programs Office handles both areas.

Clark-sponsored Junior Year Abroad Programs are presently available on a competitive basis to qualified students who wish to study at: the University of Sussex, Sussex, England; University of Dijon, Dijon, France; and Trier University, Trier, Germany (semester or full year). A Junior Year in Mexico Program is now in the planning stages. Students who study abroad on a Clark program pay regular tuition and fees to Clark. Clark assumes responsibility for the students' academic programs and normal living expenses for the academic year, including airfare.

Clark University has exchange relationships—for students and faculty—with Trier and Dijon and expects to expand these relationships in the coming years and to create new ones with other universities.

Up to four units of credit may be earned during a semester abroad and up to eight units during a full year. The International Programs Office also provides services for international students at Clark. These services include information, advising, and hosting of social events. An informal drop-in center for international students and their friends is scheduled at the beginning of each semester. For further information contact the Office of International Programs located on 18 Beaver Street, or call the Department of Foreign Languages.

WASHINGTON STUDIES PROGRAM

Clark participates in the Washington Semester Program of the American University in Washington, D.C. and the Washington Center for Learning Alternatives Internship Program.

Under the program, a small number of superior students may be nominated to attend the program, usually in the junior year, studying United States government in the nation's capital. Although any student may be interested in the program, the opportunity should be particularly attractive to students majoring in government and international relations, history, economics, or sociology. Inquiry and application should be made to the chair of the Department of Government and International Relations.

DIPLOMA PROGRAM IN STUDIO ART

As of September 1981, Clark University's Department of Visual and Performing Arts will incorporate the professional school of the Worcester Art Museum. Studio courses in commercial and fine art will be held both at the Worcester Art Museum and on the Clark campus. Areas of study include: painting, drawing, graphic design, illustration, printmaking, ceramics, sculpture, film, video, and color and black and white photography. Program options are flexible to meet the needs and interests of all students. Students may enroll in the three year diploma program and, upon completion of the course of study, may apply for admission to the B.A. or B.F.A. program through the University. Students seeking additional information should contact Albert Anderson, Chair, Department of Visual and Performing Arts.

PREPROFESSIONAL PROGRAMS

Clark University recognizes that there is no fundamental incompatibility separating liberal arts education and professional preparation. In that spirit Clark offers a bachelor of fine arts degree, a management major, computer training, and courses in education, all within a liberal arts context. In addition, Clark has identified concentrations preparatory to careers in law and medicine.

Students interested in law school are advised to plan a broadly-based academic program, which is liberal in character and has adequate samplings drawn from the natural and physical sciences, social sciences, and humanities. While there is no specific major or constellation of courses recommended for all prelaw students, it is important that the courses selected lead toward the development of certain skills: (1) *Communication and articulation skills:* courses in composition, creative writing, as well as courses in history, philosophy, government, and other fields in which the ability to read and write well is stressed; (2) *Quantitative analysis and graphical presentation:* courses in mathematics, computer science, economics and geography, which help develop the ability to compile, understand, and interpret data and to present and analyze it in graphical form; (3) *Logic:* the study of law requires the systematic analysis of propositions and of the conclusions that can be drawn from them; all courses that provide training in this skill are highly desirable; (4) *Critical understanding:* courses in ethics (philosophy), history, sociology, and other social sciences that promote understanding of human institutions and values are recommended.

In general, the records of students applying to law schools will be evaluated according to several criteria: (1) the overall quality of grades, (2) the breadth and distribution of courses, and (3) evidence of advanced learning and scholarship.

Students who are interested in prelaw are urged to consult their faculty advisers, the members of the Prelaw Advisory Board, and the prelaw *Handbook,* available in the Office of Career Planning and Placement.

Students interested in premedical or predental programs may major in any of the sciences, social sciences, or humanities, but must complete—normally before the end of the junior year—at least the minimum requirements for admission to medical and dental schools: one year each of introductory chemistry, biology, physics, and organic chemistry (all with laboratories), and one year of English and calculus. A semester of psychology is also strongly recommended or required by most medical or dental schools. Although there is considerable variation, some medical and dental schools encourage students to take courses in quantitative analysis, physical chemistry, and advanced biology. Proficiency in quantitative reasoning, communication skills, and reading comprehension must also developed, and a broad liberal arts background is helpful toward that end. In selecting their courses and planning their programs, students are urged to consult their faculty advisers, members of the Premedical and Predental Advisory Committee, and the *Guide for Students Planning to Enter Medical or Dental School* compiled by the committee. Copies of the *Guide* and other materials pertaining to premedical, predental, and other health-profession education are available in the Office of Career Planning and Placement.

Requirements for a Bachelor's Degree

GENERAL REQUIREMENTS

Course requirements: Credit toward the bachelor of arts degree is expressed in terms of courses. A one-semester course normally involves two 75-minute or three 50-minute class meetings per week and three to four hours of laboratory per week, when applicable. A course may be offered at half-strength or double-strength intensity over a half-semester. Normally each semester course is equivalent to one unit (four semester hours). Thirty-two units plus satisfactory completion of institutional and major requirements are necessary for the bachelor's degree.

Minimal academic performance: To graduate with the B.A. degree, a student must receive passing grades in the 32 full courses required for graduation; he/she must receive a C− or better in at least 24 of these courses. Equivalencies for students with fewer than 32 courses in residence will be established by the College Board.

For the purpose of transfer, a full course is equivalent to four semester-hours credit.

RESIDENCE

To earn a bachelor's degree at Clark a student must earn at least one half the total number of course units for the degree and at least one half the total number of course units taken for fulfillment of a major as *residential* credit. Residential credit is defined as credit earned through courses taught in the college. External credit is credit earned in the following categories:

1. Advanced placement and transition programs.
2. Summer school credit taken after matriculation at Clark. Such credit will be applicable to a Clark degree only when *approved in advance and in writing by the registrar.* Approval is generally restricted to making up course deficiencies or pursuing unique educational opportunities.
3. Credits transferred from other American colleges and universities.
4. Credit earned in foreign study programs administered by American or foreign institutions of higher learning other than Clark.
5. Cooperative Programs (e.g., Washington Semester, Dijon, Sussex, or Trier).

The amount of (external) credit that can be applied to a bachelor's degree at Clark is limited by category.

1. No more than one semester (4 units) may be granted in advanced placement (A.P.). A.P. credit is defined as 2 units of degree credit assigned for a score of 4 or 5 on a CEEB A.P. examination.
2. No more than three semesters (12 units) of other external credits may be awarded to already matriculated students. No more than one of these three semesters (4 units) may be taken in summer courses.
3. Eight of the last sixteen units must be completed at Clark.

DECLARATION OF THE MAJOR

A student must declare his/her major no later than the start of the second semester, sophomore year. Changes in major after this point are possible but may prolong the undergraduate experience. During the freshman year, students are encouraged to seek faculty advice and give careful attention to their future program of study.

Academic Regulations

The undergraduate normally carries a full program of four courses per semester. Students should consult their faculty advisers or major departments when questions about course or program selection arise.

Freshmen and sophomores may choose any course designated by the department as open to them. Freshmen and sophomores are admitted to 200-level courses only with permission of the instructor and the department chairman concerned, to whom the student must present evidence of high class standing and/or adequate preparation.

Juniors and seniors may elect any 100- or 200-level course; course selection by juniors and seniors is subject to conditions stated in course descriptions.

Undergraduates may be admitted to 300-level courses (courses primarily for graduate students) with the approval of the dean of the Graduate School.

RESERVE CREDIT

Full-time students who are in good standing* and who are in at least their second consecutive semester may enroll for an extra course, designated as a "reserve credit" course, for no additional charge. Reserve credit courses are in addition to the normal 8-course-per-year load, must be courses not previously attempted, normally cannot apply toward a major, and do not meet residency requirements. These courses are primarily for enrichment.

Reserve credit courses may also be used to make up credit deficiencies as follows:

1) Up to one reserve credit may be used to make up a fractional transfer award.
2) One to four reserve credits may be used to make up course deficiencies accrued at Clark as a result of no records and withdrawals.
3) No more than four reserve credits may be applied toward a degree.
4) To apply reserve credits a student must petition the dean of the college after full-time registration for her or his last semester. Registration for reserve credit courses is by special reserve credit add slip. Reserve courses are graded and apply toward grade point averages.

* That is, not on academic warning or probation.

GRADES

Grades are an indication of individual performance in each course taken in the college. At Clark three grading patterns are currently in use:

1. *Standard letter grades with no record of unsatisfactory work:* This pattern uses the symbols A,B,C,D,NR with the modifying symbols "+" and "−" for A, B, and C.
2. *The Pass/No Record Option:* This pattern uses the symbols P, NR. P indicates work at a level of C− or better.
3. *The Credit/No Record Option:* This pattern uses the symbols CR/NR. CR indicates work at a level of C− or better.

Option three (credit/no record) applies to a course as a whole and is invoked by an instructor or department with the approval of the Undergraduate Board. This option is invoked for courses in which traditional grading schemes are judged to be inappropriate to the subject matter or method of instruction. Reports on the work of each student are made out at the end of each course. All courses in which a student receives NR do *not* appear on the student's permanent record.

The faculty has approved the following qualitative description of grades:

A	indicates work of distinction, of exceptionally high quality
B	indicates good work, but not of distinction
C	indicates satisfactory work
D	indicates marginal work
NR	indicates unacceptable work

INCOMPLETES

A record of incomplete may be permitted by approval of the College Board or deans of students only when sickness or some other unavoidable circumstance prevents completion of the course. *Individual instructors may not assign incompletes without the approval of the College Board.* A record of incomplete incurred in the first semester must be made up no later than the following April 1; if incurred in the second semester, it must be made up no later than the following October 1. *If a course is not completed within the specified time, the record of incomplete is changed to NR.*

EXAMINATIONS

Final examinations are given at the end of many courses. Approximately one week is set aside for each examination period, and an attempt is made to distribute examinations for individual students evenly throughout this period. Absence from a final examination, except for the most compelling reasons, may result in an NR in the course. Other examinations and tests may be given at any time during the course at the convenience of the instructor.

CLASS ATTENDANCE

The University has no class attendance requirements; however, instructors have the prerogative of establishing such requirements for their own courses.

REGISTRATION

Every student registers for courses at the beginning of each semester. Notification of the dates for registration is given, and failure to register within the announced period results in a late fee.

ELECTION OF THE PASS OPTION

The availability of the "pass" option (P) in virtually all courses is designed to help minimize the competitive aspects of grading for those who find competition detrimental to learning. Some students may wish to elect a number of their courses on this basis.

All students should remember that the great majority of graduate and professional schools have expressed a preference for graded transcripts and encourage applicants to have many graded courses. Preprofessional students and those for whom graduate school is a goal should exercise caution in employing the "pass" option. Students who are interested in attaining honors, such as Phi Beta Kappa and general course honors at graduation, also should exercise the option cautiously.

RESTRICTION OF OPTION

A department may, with the approval of the Undergraduate Academic Board, restrict the grading option for its majors in the major program.

NONCREDIT AUDIT STATUS

Full-time degree students are eligible to register as auditors in any course with the permission of the instructor. There is no additional charge for this privilege. Part-time students also may register as auditors with the permission of the instructor and the payment of $236 per course during the academic year 1981–82. In limited or sectioned courses, regularly enrolled Clark students are given preference for available openings.

Matriculated students who successfully complete audited courses (this determination is made by the instructor) will have the audited courses posted on their permanent records.

Note: Records for nonmatriculating auditors are kept for only the semester in attendance. Transcripts are not issued for audited courses.

WITHDRAWAL FROM COURSES

A student may withdraw from any course at any time during the first four weeks of classes (regardless of the grade thus far attained in that course) providing that, after withdrawal, he/she is carrying no fewer than three courses. Withdrawal from a course after the fourth week of classes constitutes withdrawal from an enrolled course and does not permit the student to substitute his/her enrollment pattern as explained in "Normal Program and Course Variance" (page 19). Withdrawal from courses during the last two weeks of classes requires the permission of the College Board.

COURSE CHANGES

A student may enter a course without special permission (unless such permission is required) any time up to final registration at the end of the first week of classes. After the first week, a student may enter a course with the permission of the instructor up to four weeks after the beginning of classes in a semester-length course.

Thereafter, a student may enter a course only with the permission of the instructor and the College Board.

CLASSIFICATION OF STUDENTS

All students who have not been required to withdraw at the end of the academic year will be promoted if they have satisfactorily completed the following number of courses.

To the sophomore class	6 courses
To the junior class	14 courses
To the senior class	22 courses

PARTIAL PROGRAMS

In special circumstances, students may be permitted by the deans of students to register for a semester program of less than three courses. These students are designated as part-time students.

GUEST AND SPECIAL STUDENTS

The University provides for guest students from other colleges and universities who wish to study at Clark for one or two semesters and for special students who wish to take only a few courses without enrolling as degree candidates. Students enrolled as guest students should contact the Admissions Office. Persons interested in special student status should contact the registrar.

PROBATION

A student whose accumulated courses at the end of one semester are fewer than three (or fewer than two and one half in the case of a freshman) will be reminded by the dean that the student is in jeopardy of being required to withdraw.

DISMISSAL

A student may be required to withdraw from the college by failing to complete successfully five courses during freshman year and six courses each year thereafter. Students who are required to withdraw ordinarily will not be eligible for an Alumni and Friends Scholarship for the first semester of their return to the University. Students who meet demonstrated need and Federal eligibility requirements may apply for available loan and job funds. The Financial Aid Office will reinstate scholarship funds after successful completion of one semester.

ACADEMIC INTEGRITY

Academic integrity is a basic value for all higher learning. Simply expressed, it requires that work presented must be wholly one's own and that all direct quotations must be identified by source. Failure to observe this principle constitutes plagiarism.

To insure academic integrity and safeguard students' rights, all cases of plagiarism should be reported to the College Board. Such reports should be carefully documented, and students accused of the infraction notified of the charge.

LEAVES OF ABSENCE

A student who is in good standing may apply to the deans of students for a leave of absence, after which he/she may return to the University without formal application for readmission.

Honors and Awards

DEPARTMENTAL HONORS

A student may elect a program leading to a bachelor's degree with honors in a particular subject at the beginning of the junior year and, in some cases, at the beginning of the senior year. Under the plan, the department appoints an honors adviser who assists the student in planning a unified program of courses for the junior and/or senior years. The program may include a maximum of six courses in which the student works with a large measure of independence under the supervision of the adviser. In the senior year, the student must pass a comprehensive examination given by the department.

Students may apply in writing to their major departments for permission to take honors work, not later than May 1 of the sophomore year or, in some departments, in the junior year. Department approval is necessary for admission to such work.

Admission to an honors program does not relieve the student from any of the standing regulations. A student's candidacy for honors will be terminated at the end of any semester in which he/she has not maintained a standard satisfactory to the department in which the honors work is being done.

The department may recommend the student's graduation with honors, high honors, or highest honors; such recommendation occurs at the conclusion of the honors program.

GENERAL HONORS

General course honors are determined annually by the College Board on the basis of eight semesters' work or its equivalent. Criteria, such as grades, percentage of courses taken on P/NR and graded basis, and number of courses at Clark, are used for determining the awarding of general honors. Ordinarily three quarters of a student's record at Clark must be graded if he/she is to be eligible for general honors.

PHI BETA KAPPA

The Society of Phi Beta Kappa, founded at the College of William and Mary in 1776, is dedicated to the recognition and encouragement of outstanding scholarly achievement in liberal studies. The Clark Chapter, Lambda of Massachusetts, was established in 1953. Each year, a limited number of juniors and seniors are elected to membership on the basis of distinction in programs that are clearly liberal in character, with due consideration of evidence, both formal and informal, of high scholarship and creativity.

Tuition and Other Charges

SUMMARY OF TUITION AND OTHER CHARGES FIRST AND SECOND SEMESTERS ACADEMIC YEAR 1981–82

Tuition		$6,300
Health Fee		80
Room:		1,100
Dormitory double room	1,100	
Dormitory single room	1,400	
Dormitory triple room	1,000	
University house double room	1,155	
University house single room	1,440	
University house triple room	1,055	
Senior Honors House	1,500	
Board (19 meals $1,190, 10 meals $970, 5 meals, $670)		1,190
Student Activity Fee		116
SUB TOTAL for continuing students:		$8,786
Charges that apply to new students only:		
Contingency Deposit		$ 30
Orientation Fee		70
TOTAL		$8,886
OTHER FEES		
Health and Accident Insurance (optional)		$120
Application Fee (undergraduate)		20
Transcript (No charge for the first one, $1 per transcript for requests made in senior year)		2
DEPOSITS:		
Admission Deposit		$100
Tuition Deposit (upperclassmen)		200

Dormitory Deposit	100

Note: Costs are subject to change from year to year.

GENERAL INFORMATION

Tuition, board, dormitory charges, and certain fees are due and payable prior to the beginning of each semester. The dates for 1981–82 are: August 15, 1981 for Semester 1 and December 15, 1981 for Semester 2. Students are not permitted to register for any semester until all financial obligations have been arranged satisfactorily with the University.

There is a *late* fee of $25 assessed against all accounts not paid in full by the August and December due dates. In addition, *interest* at the rate of 1 percent per month (annual rate, 12 percent) will be charged on all balances (including tuition deposit) 30 days or more past due.

REFUND POLICY

Withdrawals are arranged in the Dean of Students' Office. A student who officially withdraws in writing during the first week of any semester is allowed a refund of 80 percent on tuition; during the second week, 60 percent; during the third week, 40 percent; during the fourth week, 20 percent; after the fourth week there is no refund. The activities fee is refunded by the same formula. There is no refund on other charges, except board, when a student withdraws from the University.

When a student has left, but not withdrawn from, the University on the advice of a doctor within the first four weeks of a semester, and a decision is made later that the student must withdraw, tuition refund is made retroactive to the date of the doctor's recommendation, based on the schedule described above.

NORMAL PROGRAM AND COURSE LOAD VARIANCE

A normal full-time academic program is eight course units per year (four course units per semester). Students may elect to vary this pattern by taking five course units during the fall or spring semester, and the remaining course units in the other semester. This option is available only during the full academic year (September through May), when the combined year program will equal eight units. One half year tuition will be billed for any pattern of three, four, or five courses.

Seniors in their last semester will be expected to take the necessary number of units (up to five) for their degree. Seniors in their last semester will be billed on a per-course basis at the rate of 1/8 of the normal year's tuition per course. Full-time students entering or re-entering the University in the spring semester must enroll in a four-course-unit program.

ORIENTATION FEE

A fee of $70 is assessed all new students to cover food and other related costs during orientation.

CONTINGENCY DEPOSIT

All undergraduates are required to pay $30 deposit to cover minor charges, such as property damage, which may be incurred during the year. Students are billed each year for whatever charges are incurred; the balance is refunded upon completion of studies.

DORMITORY DEPOSIT

A dormitory deposit of $100 is required of upperclassmen each spring to reserve a place in a dormitory. It is credited toward dormitory charges. The deposit is *forfeited* if the student does not enroll for the specified semester.

APPLICATION FEE

A fee of $20 must accompany the application for admission to the college. It is *not refundable.*

STUDENT ACTIVITY FEE

A fee of $58 per semester, levied and administered by the Student Council, is required of all matriculated undergraduates. It pays for admission to and participation in a wide range of cultural and recreational activities.

ADMISSION DEPOSIT

For students planning to live on campus, a nonrefundable admission deposit of $100 *and* a housing deposit of $100 are required to indicate acceptance of an offer of undergraduate admission. For students planning to live off campus, only the $100 admission deposit is required. Deposits are credited toward charges for the first semester in attendance at Clark. Deposits are *forfeited* if the student does not enroll for the specified semester.

TUITION DEPOSIT

A deposit of $200 is required of all students planning to return to the University for their sophomore, junior, or senior years. It is payable by May 1 and is credited toward charges for the fall semester; $100 of the deposit is forfeited if the student does not enroll for the specified semester.

IDENTIFICATION CARD

Identification cards are issued each year to all students without charge. This card is an official college identification and should be carried at all times. Loss should be reported immediately to the Dean of Students' Office. There is a $3 replacement charge for lost I.D.s

KEYS AND KEY SECURITY

Room keys, mailbox keys, and dormitory access cards will be issued upon a student's arrival at Clark, and it is mandatory that they be returned before the student leaves campus at the end of the academic year. The following charges will be assessed to those students who fail to return their keys and dormitory access card within 30 days after the close of school: $30 for the room key, $5 for the mailbox key, and $10 for the dormitory access card.

CLARK UNIVERSITY TUITION BUDGET PLAN

The University offers a budget plan designed for families who find it more satisfactory to budget college costs from monthly income as opposed to the traditional twice yearly payment system. Under this plan, annual college charges are divided into 10 consecutive monthly payments. The initial payment is due in May and the final payment will be due in February of the following year. The only fee for participation in this plan is $30. This fee includes the cost of automatic life insurance coverage guaranteeing payment of the balance of the budgeted amount to Clark University in the event of the death of the insured parent. This program is administered for Clark University by Academic Management Services in Pawtucket, Rhode Island. Information regarding this plan is mailed to all students who are offered admission to the University.

Student Services

ORIENTATION

All new students are expected to attend the orientation program at the opening of their first semester. This program helps students plan a course of study and familiarizes them with the Clark and Worcester communities. While the emphasis is on academic advising and placement, orientation also facilitates personal and social adjustment.

ADVISING

The faculty, administration, and staff are regularly available to all Clark students for appropriate counseling. Questions are resolved by individual conferences and sometimes through group meetings. Students may choose (and change) faculty advisers; these advisers assume primary responsibility for the academic guidance of declared majors.

HOUSING

Clark University provides housing for approximately 1100 students in both coeducational and single sex dormitories and houses. Single freshmen not living with their families are expected to live on campus and can usually choose dormitories where the majority of residents are either freshmen or upperclassmen. Transfer students must apply for housing, which is assigned on a space available basis.

Upperclassmen generally have first choice if living in University-owned accommodations, or they may move off campus into private apartments.

Rooms are assigned by the dean of students prior to the arrival of new students, and requests to live on campus, when honored, are considered binding for the remainder of the academic year as long as the student is registered.

DINING HALLS AND MEALS

Dining halls in Dana Commons and Jefferson Hall are operated for the convenience of the Clark community and guests. Service is cafeteria style, and students select from a variety of plans with respect to both the number of weekly meals and particular dietary needs, such as kosher or vegetarian. "The Locker Room"—a casual gathering place for food, drink, socializing, and entertainment—includes snack and juice bars, game and TV rooms, and a rathskellar.

HEALTH SERVICE

The Clark University Health Service is a primary care outpatient clinic which provides on-campus health care to matriculated (day college) students. It is staffed by family practice physicians from the Hahnemann Family Health Center, nurse practitioners, and a registered nurse. The clinic, located on the first floor of Wright Hall at 30 Downing Street, is open Monday through Friday 9 a.m.–5 p.m. There is always a physician on call when the Health Service is closed.

Students may make an appointment at the Health Service—with either a physician or a nurse practitioner—for diagnosis, treatment, follow-up, or counseling regarding health problems. Gynecological and contraceptive services are available.

The Health Service staff has a holistic approach to health problems. Emphasis is placed on prevention, wellness, and health education. Staff members consider their roles to be congruent with, and an integral part of, the educational process.

Before registering for courses, all students are required to demonstrate adequate medical insurance coverage, through either a family policy or the Clark University Student Health Insurance Plan.

PSYCHOLOGICAL SERVICES

The Clark University Psychological Services Center offers psychodiagnostic, psychotherapeutic, and referral services to members of the Clark community. Administratively the center is part of the Department of Psychology and is a training agency for graduate students in clinical psychology. A significant portion of the center's work is done by graduate students under supervision of several faculty-staff members who are clinical psychologists. There is also a part-time psychiatric consultant. A brochure describing the center and its services may be obtained at the center's main offices in Room 301 of Jonas Clark Hall.

OFFICE OF CAREER PLANNING AND PLACEMENT

The Office of Career Planning and Placement is a resource to which students are encouraged to turn for individual assistance in working through the relationships between undergraduate study, personal values and goals, and postcommencement options.

Students and alumni of the University may use the services of the Office of Career Planning and Placement: (1) a library of graduate and professional school catalogs and a variety of directories and program listings available to students in their search for desired fields of graduate/professional study; (2) extensive information about career possibilities of interest to Clark students, extending from traditional fields of endeavor to new, developing, and nontraditional career areas; (3) strong support for students in their senior "job-search" process, including directories of organizations that are potential employers in many fields, help in the process of resume-writing, and a resume-mailing service; and (4) professional help in these specific services by means of informal conversation, interest surveys, and counseling.

Physical Education and Athletics

Athletic programs are designed to stimulate and encourage students to wider participation in physical activities, promote health and mental efficiency, and lead to continuing participation throughout life. Participation is voluntary.

STUDENT ACTIVITIES CENTER

Clark has a modern student activities center, which houses all male and female athletic and recreational programs. The center has a central gymnasium with three full-size basketball courts, three volleyball courts, three tennis courts, eight badminton courts, a jogging track, and a setup for gymnastics. There is a 6-

lane, 25-yard pool with 1- and 3-meter diving boards. There are four handball/paddle racquet courts, two squash courts, and areas designated for weight training, exercising, crew, and dance.

INTERCOLLEGIATE ATHLETICS

For students with a reasonably high level of skill and a well-defined and strong interest in athletic competition, intercollegiate schedules are arranged in soccer, cross-country, golf, hockey, baseball, and track for men; for men and women, in basketball, crew, tennis, and swimming; for women, softball, volleyball, and field hockey. Additional intercollegiate competition may be arranged as student interest warrants.

Clark University is a member of the National Collegiate Athletic Association, the Eastern College Athletic Conference, the New England College Athletic Conference, and numerous sports associations. Clark is an N.C.A.A. Division III school and typically competes with the following Division III, Division II, and Division I schools: Amherst, Williams, Brandeis, Tufts, M.I.T., Bates, Bowdoin, Colby, Middlebury, Coast Guard, Assumption, Holy Cross, W.P.I., Springfield.

INTRAMURAL ATHLETICS

The opportunity to gain some of the benefits of participation in competitive athletics is offered to all students through organized intramural competition in touch football, basketball, volleyball, tennis, handball, table tennis, paddle racquets, softball, soccer, squash, golf, swimming, and a superstars tournament.

VOLUNTARY PHYSICAL EDUCATION PROGRAM

Individual and group no-credit classes are offered each semester in ballet, modern dance, gymnastics, yoga, karate, tennis, judo, weight training and conditioning, and fencing. Inquiries should be directed to the Department of Athletics.

COEDUCATIONAL RECREATIONAL ATHLETICS

Students may participate in coeducational and recreational leisure-time activities including archery, badminton, basketball, fencing, golf, gymnastics, horseback riding, sailing, swimming, tennis, softball, volleyball, and in several dance activities, including folk, square, and modern dance. The same activities are available to men's and women's groups. (Off-campus arrangements must be made for golf, sailing, and horseback riding.)

Admission

FRESHMAN ADMISSION

Clark University welcomes applications for admission from men and women without regard to race, color, religion, age, national origin, financial condition or presence of any handicap. Selection is competitive and based primarily on academic promise as indicated by secondary school performance, recommendations, and Scholastic Aptitude Test scores. Secondarily, decisions reflect consideration of the individual experience and particular circumstances unique to each candidate.

ENTRANCE REQUIREMENTS

In general, the completion of a minimum of 16 acceptable units of credit in a four-year secondary school program or its equivalent is required for admission to the freshman class. Such preparation typically includes four years of English; two or more years of any foreign language studied; two or more years of mathematics (three or more for those planning a science or mathematics major); at least one year each of social studies and natural science (more laboratory work for those planning a science major); and other credit electives, including the arts, recognized in the secondary school curriculum.

ADMISSION TESTS

Applicants for freshman admission in September should submit the results of the Scholastic Aptitude Test (SAT) administered by the College Entrance Examination Board no later than January. Three Achievement Tests are required: Two may be elective and one must be the English Composition Examination.

REGULAR ADMISSION

Candidates for freshman admission in September should initiate their applications as early as possible, usually during the first semester of the final year of secondary school, and no later than February 15. The deadline for admission at midyear is December 1. A nonrefundable fee of $25 must accompany each undergraduate application unless a waiver is being requested. Clark participates in the Common Application Program and accepts photocopies of the appropriate forms, which are distributed to secondary schools.

EARLY ADMISSION

Exceptional students are invited to apply for early admission when encouraged and supported by enthusiastic recommendations from their secondary schools.

EARLY DECISION

As a service to students for whom Clark is clearly first choice, Clark has established an Early Decision Program. Applications in writing for an early decision may be submitted anytime until January 15. Notification is on a rolling basis and decisions are announced within 30 days of receipt of a completed application. Candidates will be offered admission or deferred for further consideration with regular applicants. Although this program does not preclude regular applications to other colleges, participation by a student does imply a commitment to withdraw such applications upon notice of acceptance by Clark.

INTERNATIONAL ADMISSIONS

Foreign students attending secondary schools *within* the United States may use the standard application forms, but it may also be necessary to submit an international application. The Test of English as a Foreign Language (TOEFL) is required of all candidates whose native or official language is not English. TOEFL results for successful applicants are usually in the 550–650 range. For information, write to TOEFL, Box 899, Princeton, NJ 08540. Those attending secondary school in the United States for less than two years need *not* submit results from the Scholastic Aptitude Test (SAT) but these students *must* submit TOEFL scores if their native language is not English. Financial aid for foreign students is limited; the maximum scholarship for students from abroad is $5,000 year based on completion of a financial aid application. Those at secondary schools in the United States under a student visa will need another visa for university study. The *Certificate of Eligibility (I-20),* necessary to obtain a student visa, will be granted *only* after full admission and recipt of a *Certification of Finances* signed by a bank official.

NOTIFICATION OF ADMISSION AND DEPOSITS

Regular notification of admissions decisions for September freshmen occurs on or about April 1, and Clark subscribes to the Candidates' Reply Date, May 1. For students planning to live on campus, a nonrefundable admission deposit of $100 *and* a housing deposit of $100 are required to indicate acceptance of an offer of undergraduate admission. For students planning to live off campus, only the $100 admission deposit is required. Deposits are credited toward charges for the first semester in attendance at Clark.

DEFERRED ADMISSION

Students wishing to postpone enrollment need only submit a request in writing by the assigned reply deadline. The tuition deposit then becomes due on April 1 of the following year for September admission or by December 1 for entrance in January. Students who undertake a full program of academic work in the interim may not automatically defer enrollment, but must reactivate their applications by submitting official transcripts for review.

ADVANCED PLACEMENT/STANDING

Placement in advanced courses is determined by individual performance on departmental examinations, which may be oral or written, or on the Advanced Placement and Achievement Tests of the College Entrance Examination Board. Each score of 4 or 5 on an AP Test, for example, will be credited with a value of two course-units at Clark. Advanced standing may also be earned by transfer; presentation of an official transcript of college-level course work already completed is required. A maximum of one semester's credit (4 units) may be assigned to freshmen enrolling with advanced standing.

TRANSFER CREDIT

Normally, credit is given for academic courses in the liberal arts previously taken at accredited colleges and universities and for Advanced Placement Test results as described above. Credit for courses at nonaccredited institutions is granted on a provisional basis to be evaluated upon successful completion of two semesters of full-time work at Clark. No credit is given for any course completed with a grade lower than C-minus.

Evaluation of credits for college courses completed elsewhere is made on request, at the time of admission or upon receipt of final transcripts, and is used in planning a course program and in provisional classification as a freshman, sophomore, or junior. A maximum of 50 percent of both the Clark B.A. degree and the departmental major requirements may be accepted in transfer, and normally, a minimum of two academic years at Clark is necessary for completion of degree requirements. Matriculated students should refer to the section on residency requirements.

TRANSFER APPLICANTS

Clark welcomes applications for admission with advanced standing from students attending two- and four-year institutions. The majority of students admitted enter at the junior level, although many transfer to Clark with sophomore and advanced freshman standing.

Of special interest to transfer candidates are the University's B.A./M.A. program options in Comparative Literature, Environmental Affairs, and International Development and Social Change.

The application deadline is May 15 (December 1 for places available at midyear).

TRANSFER REQUIREMENTS AND NOTIFICATION

All applicants for transfer are required to submit evidence of good standing, complete transcripts of all previous academic work—secondary level and beyond—including the Scholastic Aptitude Test if taken, and any other information requested by the Admissions Committee, such as recommendations and course description catalogs. Decisions are announced as soon as possible depending upon completeness and scope of records.

CAMPUS VISITS AND INTERVIEWS

Prospective students are encouraged to visit the campus and are invited to write or call the Admissions Office (617-793-7431) for details. Interviews, both on and off campus, are available with members of the admissions staff or alumni by appointment in the fall and winter. Interviews are not an admission requirement.

Undergraduate Financial Aid

GENERAL INFORMATION

Financial aid is allocated on the basis of financial need and academic performance. Special talent in music, art, athletics, and other areas, as well as leadership ability also are considered. However, in no case will an award exceed a student's financial need. Aid is packaged—i.e., a combination of scholarships, grants, loans, and part-time employment. The Committee on Financial Aid assesses each student's financial circumstances on the basis of the uniform methodology utilized by most institutions and approved by the federal government. The assessment takes into account family income and assets, age of parents, financial commitments to other dependents and members of the family, and other special circumstances.

The University expects that a student's resources for education will come first from family and his/her own savings and earnings; the University will make every effort to assist the student in obtaining the difference between the total cost and available family resources. No student should fail to apply for admission to Clark University because of the inability of his/her family to pay total educational costs.

INDEPENDENT SOURCES OF ASSISTANCE

All applicants for financial assistance are urged to pursue independent sources of financial assistance. Clark cannot replace outside funds for which a student is eligible but fails to apply. Scholarships are often awarded to graduating seniors by high schools and/or private scholarship agencies in students' local communities. Additional information usually is available in guidance offices.

Residents of Massachusetts are expected to apply for a *State Scholarship*. To apply, students must complete state Financial Aid Forms (FAF), which may be obtained from guidance counselors or financial aid offices. Out-of-state students should investigate the possibility of using state scholarships at Clark.

An important source of federal financial assistance is offered in the form of *Basic Educational Opportunity Grants* (BEOG). These grants, which vary in amount up to approximately $2,000 per year are available to students who demonstrate financial need according to Federal regulations. All applicants for financial aid are required to apply for a BEOG. Students may apply for a BEOG by checking the appropriate item on the FAF.

The *Guaranteed Student Loan Program* is designed primarily for middle income families who do not qualify for other types of financial assistance. For those who need additional help, it may be utilized as a resource to supplement scholarship, grant, and loan. Offered chiefly through lending institutions, this program is subsidized by Federal funds. The Federal government will pay the 7 percent simple annual interest while the student is in college. Loans up to $2,500 per academic year are offered in most states. Additional information and application materials are available at local banks. Information for entering freshmen and upperclassmen may be obtained at the Financial Aid Office.

Veteran's Benefits may be available for service veterans and children of deceased and/or disabled veterans. Eligibility can be determined by contacting your local Veterans Administration Office.

Social Security Education Benefits may be available for children whose parent(s) are deceased and/or disabled. Additional information is available at your local Social Security Administration Office.

Rehabilitation Assistance may be available for students who qualify for educational benefits. Information concerning rehabilitation services can be obtained at the State Rehabilitation Office.

Clark University Financial Assistance

Clark University makes a commitment to entering students during their freshman year and in each subsequent year at Clark as long as they continue to show financial need. Although any student who enters Clark may apply for assistance as an upperclassman, guarantees are made only to those needy students who received aid their first year.

Assistance at Clark is "packaged" in the form of scholarship, loan, grant, and employment from the following sources:

Alumni and Friends Scholarships—a portion of the University income is reserved for this purpose and gifts from alumni, parents, and friends provide additional scholarship funds.

Supplemental Educational Opportunity Grants—part of a federal program of assistance to college students demonstrating exceptional financial need. Continued support of this fund is contingent upon annual congressional allocations.

National Direct Student Loans—long-term loans that bear no interest until nine months after a student ceases to be at least a half-time student at an institution of higher education. At that time, interest begins to accrue at the annual rate of 3 percent on the unpaid balance. A person borrowing from this fund will repay the amount in equal installments of at least $30 per month principal over an extended repayment schedule of up to ten years. Continued support is contingent upon annual congressional allocations.

Student Employment—available during the summer and part time during the academic year. The basic source of funds for employment is the Federal College Work-Study Program. Jobs, offered as part of the package of financial assistance, and placements are handled by the Financial Aid Office.

ENDOWED SCHOLARSHIPS

Most grants awarded by the University are designated Alumni and Friends Scholarships. Funds for these scholarships are derived from endowed funds as follows: (Because of the various restrictions placed on these funds, it is the policy of the University to select eligible recipients. Students should not apply directly.)

The Reginald Bryant Allen Fund
The Alumni Group Scholarship
The Richard Barnes Memorial Scholarship Fund
The B'nai B'rith Scholarship
The Stella Malkasian Boy Scholarship Fund
The Gertrude and William Brodie Award
The Charles W. and Annie L. Bruninghaus Fund
The Reina and Isidore Chaiklin Scholarship Fund
The Clark University Faculty Women's Club Scholarships
The Gloria Woolson Cockburn Memorial Scholarship Fund
The Celia Daspin Memorial Scholarship Fund
The Depaul-Cunningham Student Loan Fund
The Ruth and Loring Dodd Scholarship Fund
The Theodore T. and Mary E. Ellis Fund
The Albert C. Erickson Scholarship
The Leon E. Felton Memorial Scholarship Fund
The A.D. Ross Fraser Scholarship
The Julian S. Freeman Memorial Scholarship Fund
The Aaron Fuchs Memorial Scholarship Fund
The Lillian and Selig Glick Scholarship Fund
The Paul S. Goldman Memorial Scholarship
The Wallace W. Greenwood Scholarship Fund
The Hall International Fellowship
The Bertram L. and Bessie T. Handleman Fund

The Frank H. Hankins Scholarship
The High School Basketball Tournament Scholarship
The Lennard A. Hill ('57) Memorial Scholarship Fund
The Gertrude and Eva Hillman Scholarship
The Frances Tufts Hoar Fund
The Ruth G. Hodgkins Scholarship Fund
The Drs. Burton P. and Herbert H. Hoffner Endowed Scholarship Fund
The Frederic W. Howe Jr. Scholarship Fund
The Gordon A. Hubley Fund
The M. Hazel Hughes Scholarship
The Jean E. and Theodore H. Hurwitz Endowed Scholarship Fund
The George N. Jeppson Scholarship Fund
The Johnson-McLean Scholarship Fund
The Kappa Phi Scholarship Fund
The Ella O. Keene Scholarship Fund
The George F. Kneller Endowed Scholarship Fund
The Levi Knowlton Fund
The Dr. Edmund Randolph Laine Scholarship Fund
The David Ashley Leavitt Memorial Scholarship Fund
The Joseph Leavitt Scholarship Fund
The Dwight E. Lee Scholarship Fund
The Elizabeth T. Little Scholarship Fund for Women
The Homer Payson Little Scholarship in Geology
The Livermore and Ambulance Drivers Scholarship
The Robert H. Loomis Scholarship
The Chester W. Malmstead Loan Fund
The Joshua Morrison Scholarship Fund
The Nazareth Nanigian and Manasseh Nanigian Memorial Scholarship Fund
The Nation Council of Jewish Women Scholarship
The Alice Friend Newton Memorial Scholarship
The Norton Company Endowed Scholarship
The Gerim M. Panarity Scholarship Fund
The Abraham Persky Scholarship Fund
The Joseph Persky Endowed Scholarship Fund
The Gerard Pomerat Scholarship Fund
The Charles B. Randolph Fund
The Helen Brewster Randolph Memorial Scholarship
The Jennie L. Richardson Scholarship
The William Richardson Scholarship
The Elliott Stephan Sahagian ('67) Scholarship Fund
The Sanford Memorial Scholarship
The Samuel Schanberg Memorial Scholarship Fund
The Fredric T. Sewall Scholarship Fund
The Henry L. Signor Scholarship
The Abraham Solomon Scholarship Fund
The Harry D. and Anita Solomon Endowed Scholarship Fund

The Saul Reuben Stein Scholarship
The William T. and Barbara H. Stimson Scholarship Fund
The Russell S. Thompson ('18) Scholarship Fund
The Michael Thomas Tucker Memorial Scholarship Fund
The Undergraduate Scholarship Fund
The Benjamin R. and Grace F. Vandeford Student Aid Fund
The Whitman Scholarship
The Henry A. Willis Scholarship
The Harold C. Wingate Memorial Scholarship Fund
The George M. and Bee Wolfe Scholarship Fund

APPLICATION PROCEDURES

In addition to filing an application for admission, all freshman candidates applying for financial assistance must submit a completed Financial Aid Form (FAF) to the College Scholarship Service by February 15, and direct that a copy be forwarded to Clark University. It is anticipated that there will be a two-part Financial Aid Form for 1981–82; applicants must file both parts. The Financial Aid Form may be obtained from the secondary school guidance office. Offers of financial assistance will be made simultaneously with, but independent of, the decision of the Admissions Committee. All recipients are required to verify the information reported on the FAF by filing a copy of their parents' most recent federal income tax return. Early decision candidates should file an Early FAF by November 1. The form may be obtained from the Admissions Office.

Prospective transfer students who are requesting financial assistance should submit the FAF to the College Scholarship Service at the same time application is made for admission. Transfer students must submit a photo copy of their parents' latest federal income tax return to the Financial Aid Office before an aid decision can be made. Award notification will be made concurrent with acceptance to the University, if possible; FAF processing takes approximately four weeks. Applicants will not be required to post an admission deposit before receiving a financial aid decision.

Upperclassmen must reapply annually for financial assistance by submitting an updated FAF to the College Scholarship Service by March 1. In addition, a copy of the parents' previous year's income tax form (Form 1040) must be filed with the Financial Aid Office by April 15. Assistance is renewed as long as the applicant continues to demonstrate financial need.

Any student interested in financial assistance should request a copy of the Clark University Financial Aid Brochure from the Admissions Office. The brochure contains all pertinent financial aid information including policies and procedures and the rights and responsibilities of aid applicants.

The Graduate School

General Information

Clark University was established in 1887 as the second graduate institution in America. Its faculty and graduates have endowed the University with an impressive record of accomplishments through the years. Under the administration of the Graduate Board, Clark offers programs leading to master's and doctor's degrees to qualified holders of a bachelor's degree or equivalent.

Master of arts degrees are offered in the fields of biology, chemical physics, chemistry, comparative literature, education, English, environmental affairs, geography, government, history, international development, linguistics, mathematics, physics, and psychology. The master of business administration degree is offered by the Department of Management. In addition, Clark offers a master of health administration, a master of public administration, a master of science in public health, and a master of arts in liberal arts degree.

Doctor of philosophy degrees are offered in biology, the biomedical sciences (in cooperation with the University of Massachusetts Medical School, the Worcester Foundation for Experimental Biology, and the Worcester Polytechnic Institute), chemistry, chemical physics, economics, geography, history, mathematics, physics, and psychology. A doctor of education degree is offered by the Department of Education. Postdoctoral training is conducted in geography, psychology, and the sciences.

Departments that do not, at present, accept candidates for graduate degrees may offer courses suitable for inclusion in a program of graduate study.

Scholarships, fellowships, and assistantships are listed at the end of this section. Additional information concerning departments and their offerings will be found in the section entitled *Departments and Courses.*

INQUIRIES

Inquiries by students in American institutions concerning specific programs of graduate and postdoctoral work should be addressed to the chairman of the department concerned or to the relevant director of the program. Please check catalog section, *Departments and Courses,* for names of department chairmen and program directors. Inquiries by foreign students should be addressed to the dean of the Graduate School.

ADMISSION TO THE GRADUATE SCHOOL

Admission to the Graduate School may be granted *only* by the dean of the Graduate School acting for the Graduate Board on the recommendation of a department or program of the University. An official letter from the graduate dean is the formal notification procedure. Admission to the school does not imply admission to candidacy for a degree.

Application: A prospective applicant from an American institution should communicate with the appropriate department or program head. If encouraged to make an application, the applicant will be provided with an application form, which, accompanied by a $20 application fee, should be returned to the department or program. In addition, the applicant should arrange the forwarding of an official transcript of all undergraduate and any subsequent academic work and three letters of recommendation from persons who are competent to judge qualifications for graduate study.

Department or program heads may request the submission of additional material, and most require a record of attainment in the Graduate Record Examination given by the Educational Testing Service, Princeton, New Jersey. All applicants are urged to take, and to submit the results of, the Graduate Record Examination verbal, quantitative, and advanced tests.

A foreign student, if encouraged by the dean to make formal application, should provide a certified English translation of his or her official record (if not in English), evidence of English proficiency (TOEFL), at least three letters of recommendation, and a statement concerning the applicant's financial resources or agency support.

Application for admission and for financial aid should be completed not later than February 15 if the applicant intends to begin studies the following September. Applications for admission may be submitted, however, throughout the year. Application materials will not be returned to the applicant. Students applying for financial aid are required to fill out a Financial Aid Form before awards are made.

Application for admission as a *special status graduate student* (not in a degree program) should be made through the Registrar's Office.

Admission: Admission to the Graduate School is granted for entry only at a specified time and lapses if the student fails to enter at that time. Admission as a part-time graduate student may be granted to qualified applicants who cannot devote full time to study, upon recommendation of the department or program head.

If a student, when admitted, was a candidate for a degree elsewhere, he/she must arrange, upon receipt of that degree, to have a supplementary transcript, including a notation of the degree conferred, sent directly to the dean of the Graduate School.

MASTER OF ARTS

Residence: An academic year (eight semester-courses) of study in residence is a minimum requirement for a master's degree.

Individual departments or programs may require longer periods of residency. Residence study is broadly defined as graduate work done at Clark University under the immediate personal supervision of at least one member of the University faculty.

Foreign Language: Language or other special requirements are included in the department listings in this catalog.

Candidacy: Application for admission to candidacy for a master's degree must be filed with the dean of the Graduate School not later than the first week of the last full semester the student expects to spend in residence as a candidate for a degree. Forms are obtainable at the Registrar's Office.

Applications will be considered by the Graduate Board when the student has completed one semester of full-time graduate work or its equivalent in residence at the University and obtained the written endorsement of the major department or program.

Candidacy for the degree of master of arts is valid for three years after admission to candidacy. For satisfactory reasons, candidacy may be renewed once for an additional period of three years on vote of the Graduate Board.

Course and Examination Requirements: Each student must complete at least eight semester-courses in a program approved by the department. One course may be a research course devoted to the preparation of the thesis. Credit for a maximum of two courses at another institution may be approved by the dean of the Graduate School upon recommendation of the department.

Each candidate must pass such written examinations as required by the major department and a final oral examination by a committee of three or more, one of whom must be a member of the Graduate Board.

Thesis: The thesis is written on a topic in the field of the student's special interest under the supervision of a member of the department and in a style, length, and format that is appropriate to the problem being researched. The ribbon copy of the thesis, a precis approved by the supervising instructor, and an academic history must be deposited in the Registrar's Office not later than three weeks before the date of the commencement at which the degree is to be conferred. At least one additional copy of the thesis and the precis must be delivered to the major department, which may require more than one copy. The precis may not exceed 75 words. The title page, precis, and academic history forms are obtainable from the Registrar's Office. The ribbon copy of the thesis must be typed as prescribed in "The Master's Thesis." These instructions are available at the Registrar's Office.

The thesis is deposited by the Registrar in the University library. The precis is printed in an annual publication, *Dissertations and Theses*.

Diploma Fee: This fee for the master of arts degree is $25. It covers the cost of the diploma, publication of the precis in *Dissertations and Theses,* and binding of the library copy. It is payable when the thesis is deposited with the Registrar. Students who do not write a thesis, including those receiving the degree on the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Alternative Program: A candidate for the degree of master of arts may be recommended for the degree without a thesis after passing a preliminary doctoral examination.

Nonresident Students: Continuing students who are not in residence at Clark are required to pay a nonresident fee of $100 per semester.

MASTER OF ARTS IN EDUCATION

The residency, candidacy, course, examination, and diploma fee requirements are the same as those listed for the degree of master of arts.

Thesis: Students may choose one of three options, subject to the approval of the Department of Education. They may choose to: (1) prepare a thesis as required for the M.A. degree; (2) elect two additional subject-matter courses; or (3) elect a research seminar in which papers are prepared and presented to fellow students and staff.

Further information concerning the degree of master of arts in education may be found under the Department of Education.

MASTER OF ARTS IN LIBERAL ARTS

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF BUSINESS ADMINISTRATION

This degree is offered through the Department of Management. For further information, see listings under the Department of Management.

MASTER OF HEALTH ADMINISTRATION

This degree is offered through the Department of Management with the cooperation of the University of Massachusetts Medical School, Worcester. For further information, contact the Department of Management.

MASTER OF SCIENCE IN PUBLIC HEALTH

For further information, contact the College of Professional and Continuing Education, Clark University.

MASTER OF PUBLIC ADMINISTRATION

For further information, contact the College of Professional and Continuing Education, Clark University.

DOCTOR OF EDUCATION

The program leading to the doctor of education emphasizes human development and learning as it relates to curriculum, instruction, and evaluation, and in the sociology of education. The requirements for this degree closely parallel those for the degree of doctor of philosophy (see below). See catalog section on Department of Education for further information.

DOCTOR OF PHILOSOPHY IN BIOMEDICAL SCIENCES

The Biomedical Sciences Ph.D. Program began in 1975 with the recognition that certain individuals without a standard academic background, but with previous research experience and an outstanding aptitude for independent research, may benefit from a relatively unstructured program leading to the Ph.D. degree. This is a cooperative program involving Clark University, the University of Massachusetts Medical School, Worcester Foundation for Experimental Biology, and Worcester Polytechnic Institute. It takes advantage of the faculty, facilities, and varied research interests in the biomedically-related sciences in the Worcester area. The primary criterion for admission is research ability and potential, and evaluation of applicants is based largely on evidence of their previously performed research. Award of the Ph.D. requires passing of a preliminary examination and presentation and defense of a research thesis. Competence in the major field in preparation for the preliminary examination can be achieved through independent study, directed study, or formal courses. The Ph.D. degree may be awarded by either Clark University or Worcester Polytechnic Institute, although thesis research may be done at any of the participating institutions under the sponsorship of a faculty member from that institution. Areas for the conduct of thesis research reflect the varied research programs of faculty from the participating institutions. These include, but are not limited to: cellular and molecular biology; cell senescence; metabolism, endocrinology, and immunology; pharmacology and experimental pathology; reproductive biology, physiology, neurobiology, and behavioral science; biological engineering, related to nitrogen fixation and development of new symbiotic systems with blue-green algae; bio-mass and bio-energy (silviculture and fermentation technologies).

Admission: The primary criterion used in selection of students for this program is the demonstrated capacity of the applicant to do independent research. In addition to the application form, applicants submit official transcripts of undergraduate and graduate work, Graduate Record Examination (GRE) scores, three letters of reference, and evidence of outstanding research ability (e.g., publications, abstracts, etc.). More complete information may be obtained from the program director.

Applications and all supporting documents should be submitted to the Director, Biomedical Sciences Ph.D. Program, c/o Personnel Office, Worcester Foundation for Experimental Biology, Shrewsbury, MA 01545. Application may be made at any time during the year.

DOCTOR OF PHILOSOPHY

Only well-qualified candidates with proven ability in their special fields of study will be encouraged to proceed to the degree of doctor of philosophy.

Residence: The minimum requirement is one year of full-time study (eight semester-courses beyond the M.A.) or its equivalent in part-time work, in residence.

If the degree of master of arts has been earned at Clark, this requirement is in addition to the residence requirement for that degree.

Foreign Language: Each graduate department sets its own language or related requirements as the student's field of research may demand and must report such requirements in each case to the dean of the Graduate School. If a language is required, either the Educational Testing Service Foreign Language Tests or on-campus testing are employed at the discretion of the department.

Preliminary Examination: Upon completion of preparation in the fields of study, a prospective candidate takes a preliminary examination set by the major department. This examination may be written or oral, or a combination of both. The chairman of the department may invite other scholars from within or outside the University to participate in the examination.

Candidacy: An application for admission to candidacy should be filed when the applicant has: (1) completed two full academic years of graduate work or its equivalent in part-time work, including one year at Clark University, (2) completed the departmental requirements in a foreign language, (3) passed a preliminary examination in the chosen field of study, (4) obtained the written endorsement of the major department. Application forms are obtainable at the Registrar's Office.

Candidacy for the degree of doctor of philosophy is valid for three years after admission to candidacy. For satisfactory reasons, candidacy may be renewed once for an additional period of three years by vote of the Graduate Board.

Dissertation: A dissertation, which is expected to make an original contribution to a special field of knowledge, is required of each candidate. The dissertation, approved by the chief instructor or dissertation committee, is laid before the examining committee at the final oral examination.

An abstract of the dissertation, not exceeding 600 words, and a precis, not exceeding 75 words, both approved by the instructor or committees under whom they were written, are also required.

Four weeks before the degree is to be conferred, the ribbon copy of the dissertation, together with two official title pages, an academic history, the ribbon copy of the abstract and of the precis, each in a form prescribed, must be delivered to the registrar. At the same time, one or more copies of the dissertation and of the abstract may be required by the major department. The title pages, precis, and academic history forms are obtainable at the Registrar's Office. The ribbon copy of the dissertation must be typed as prescribed in "The Doctoral Dissertation" and "Suggestions for the Preparation of Doctoral Dissertations for Microfilming." These instructions are available at the Registrar's Office.

The Registrar deposits the dissertation and the abstract in the University library where they remain permanently. A microfilm copy of each dissertation is made by University Microfilms, Inc., of Ann Arbor, Mich. and is available for duplication by them on request. The abstract is printed in *Dissertation Abstracts;* the precis is printed in an annual publication, *Dissertations and Theses.*

Articles published in refereed journals may be accepted in lieu of a dissertation.

Final Examination: The final examination is oral and lasts for at least two hours. Additional written examinations may be given if the major department so directs. The candidate is expected to defend the dissertation and, at the discretion of the examining committee, may be questioned on the entire special field of study. The oral examination is conducted by a committee of at least four members, composed of at least one member of the Graduate Board and such members of the department and nonmembers from within or outside the University as the chairman may appoint. The chairman notifies the dean of the Graduate School, at least one week in advance, of the time and place of the examination and the composition of the committee. The dean is authorized to invite any person from within or outside the University to be present and to assist in the examination.

Diploma Fee: This fee for the doctor of philosophy degree is $85. It covers the cost of the diploma, hood, publication of the precis in the publication *Dissertations and Theses,* publication of the abstract in *Dissertation Abstracts,* and binding of the library copy of the dissertation. It is payable when the dissertation is deposited with the Registrar.

Nonresident Students: Continuing students who are not in residence at Clark are required to pay a nonresident fee of $100 per semester.

POSTDOCTORAL STUDY

Postdoctoral students are classified in three categories: *Honorary Fellows,* visitors for varying lengths of time, always more than a few days, who wish to observe activities of a department, to study or to carry on research but without formal teaching duties or support by the University; *Research Associates,* who work full time with designated members of the University staff on research projects, normally supported by grants, without formal teaching duties but with some responsibility for directing laboratory assistants; and *Trainees,* who enroll in a formally offered postdoctoral training program.

The Honorary Fellow and Research Associates enjoy faculty status, although the extent to which faculty privileges may be granted may be restricted by availability of space and other resources.

FINANCIAL ASSISTANCE

All applicants for admission who request financial assistance are required to file a Student Financial Statement with the College Scholarship Service as part of their application. This form, along with specific instructions, should be requested by contacting the applicant's prospective department or program. Financial aid is not necessarily based on an evaluation of the student's need.

GRADUATE SCHOLARSHIPS, FELLOWSHIPS AND ASSISTANTSHIPS

Graduate fellowships and scholarships are provided for well-qualified students by the University from endowed funds and from other sources. Financial aid to graduate students also is available in the form of grants from a number of special funds and, in some departments, from sponsored research grants. A limited amount of part-time employment is available in the various offices and departments of the University. Students who receive awards must obtain permission from the department before accepting employment.

Application for a scholarship or fellowship to begin in September should be made before February 15 to the chairman of the department or director of the program in which the applicant expects to do major work. Late applications, after endorsement by the department, go to the dean of the Graduate School for final approval.

RESEARCH FELLOWSHIPS

These fellowships may be awarded to graduate students who have fulfilled their residence requirements and who are pursuing a full-time doctoral program on campus.

TEACHING ASSISTANTSHIPS

There are three categories for Teaching Assistantship appointments:

1. *Part-time Lecturer*—a nonprobationary, part-time faculty position that does not lead to consideration for tenure or faculty fringe benefits (TIAA, vacation, etc.). The student is responsible for one or two small classes and should have considerable independence over all aspects of teaching and grading. The student will be under the general supervision and direction of a faculty member.

This category is reserved for the advanced student who has manifested, clearly, skill in teaching and is qualified and experienced in the subject to be taught. The student should be accorded as many faculty privileges as possible, *e.g.*, attending department meetings and having office space. Stipend for this position is $3,700–$4,500 for nine months.

2. *Teaching Apprentice*—students with prior teaching experience, either as an undergraduate or as a graduate assistant. Responsibilities include conducting discussion sections for a course, supervising laboratory sections, running tutorial sessions, grading papers and projects, and discussing these with the undergraduate students.

The student in this category should be under the direction of a professor who would assume responsibility for the student's training as a teacher. Stipend for this category is $3,700–$4,000 for nine months.

3. *Teaching Assistant*—students with little or no teaching experience. Responsibilities include tasks that allow assistants to observe experienced teaching assistants or instructors and learn their pedagogical methods. Duties are assigned on a job basis and may include assisting other senior TAs, setting up and tearing down laboratory equipment, and doing a variety of other tasks associated with teaching a course or section.

The assistant may grade examinations only if a part of a general grading team of assistants or under the direct supervision of a senior TA or instructor. Stipend for this category is $3,500–$4,300 for nine months.

The time commitment for each category is approximately half time. Tuition will be remitted on all three categories. The number of hours of study an assistant at any level takes in addition to teaching responsibilities should be decided by the department chairman with overall supervision from the dean of the Graduate School. The Internal Revenue ruling, which states that payment for teaching is nontaxable provided it is a requirement for an advanced degree, is still in effect, but with some detailed provisions. We have been informed that some cases at other schools have been questioned. If a student chooses to have tax withheld, he/she is usually entitled to a tax refund when filing with the Internal Revenue Service.

Note that the Departments of Biology, Chemistry, Economics, Geography, Government, History, Mathematics, Physics, and Psychology require teaching experience for graduate degrees.

ASSISTANTSHIPS

Assistantships are available in several departments. Assistantships involve a variety of services including research with appropriate stipends and usually provide the student with experience which will be useful in later professional work.

GRADUATE FELLOWSHIP AND SCHOLARSHIP FUNDS

Stipends for fellowships and scholarships are provded by:

The Alumni Association Fund, provided by alumni who hold the degree of doctor of philosophy to benefit students studying for that degree.

The George S. Barton Fund, a bequest from the Honorable George S. Barton of Worcester, to be used for the benefit of native-born citizens of Worcester.

The Elnora W. Curtis Fund, a bequest from Dr. Elnora W. Curtis (A.M. 1908, Ph.D. 1910) for the benefit of graduate students.

The Eliza D. Dodge Fund, to be granted to graduate students of limited means who are engaged in research work.

The Henry Donaldson Jordon Award in History, for high standard of scholastic achievement and qualities of character which will be valuable in the training of teachers.

The Joseph F. Donnelly Memorial Fund, a bequest from Lucretia F. Donnelly to help men who are enrolled in a course leading to the degree of doctor of philosophy.

The John White Field Fund, established by Mrs. Eliza W. Field to provide for the minor needs of a scholar or fellow.

The Austin S. Garver Fund, a bequest from Austin S. Garver, member of the Board of Trustees from 1908 to 1918.

Graduate School Scholarship Fund, a bequest from Alexander H. Bullock, a member of the Board of Trustees from 1926 to 1946 and president of the Board from 1938 to 1946.

The George Frisbie Hoar Fund, the gift of Andrew Carnegie in honor of the second president of the University's Board of Trustees.

The Ella O. Keene Scholarship Fund, established by Ella O. Keene (M.A. 1937) for women geography students.

The Myers Fund, a gift of George E. Myers (Ph.D. 1906) to assist graduate students to do research in education and psychology.

The David J. Ott Scholarship, the scholarship designed to support a qualified student towards the Ph.D. degree in economics. The successful candidate is assured support (tuition plus stipend) for three years at Clark.

The Charles H. Thurber Fund, provided by Charles H. Thurber, member of the Board of Trustees from 1913 to 1938 and president of the Board from 1919 to 1937.

GRADUATE LOANS

Loans, bearing interest at ten percent per year after completion of residency, are available on a limited basis for full-time graduate students upon registration. Applications are available at the Graduate School Office.

LOAN FUNDS

The Mary S. Rogers Scholarship and Loan Fund, established in 1926 for the benefit of students in the Graduate School.

The Mary M. Thurber Fund, established by the late Dr. Charles L. Thurber, former president of the University Board of Trustees, as a memorial to his mother.

The United States Steel Foundation Fund, established primarily for American citizens studying in the areas of psychology, geography, economics, biology, and chemistry.

For loans from these and other sources that may become available, application should be made at the Graduate School Office.

DEPARTMENTAL FUNDS

The Wallace W. Atwood Research Fund. The income from this fund may be used at the discretion of the staff in the Graduate School of Geography for the promotion of field studies in geography by any member of the staff, or any one of the alumni holding a graduate degree from the Graduate School of Geography, or for the publication of results of such research work.

The Chester Bland Fund. The income from this fund preferably is used to provide aid to a promising student, either in residence or engaged in research elsewhere under the direction of the Department of History. It also may be used to defray the expense of visiting lecturers or of departmental research.

The Wallace W. Greenwood Fund. The income only is to be divided between the Departments of Physics and Chemistry and to be used for any purpose within the scope of these two departments.

The Morton L. "Sonny" Lavine Foundation is a memorial to Lieutenant Lavine of the United States Army, World War II. The income is to be used for the promotion of research in the Department of History.

The Libbey Fund, bequeathed to the University by Mary E. Libbey, is to establish a fellowship in physical geography and to aid the department in that field.

GRADING

The grades of A and B (with plus and minus) are acceptable for graduate credit; anything lower than a B− is not acceptable. A "P" (pass) signifies that the student has performed at a B− or above level. Incompletes are awarded at the discretion of the instructor.

HOUSING AND BOARD

Off-campus rooms and apartments for both men and women are available in the immediate area of the University. For information concerning off-campus housing contact the Office of Buildings and Grounds, which has a limited listing. Students should plan to arrive before registration to arrange for suitable off-campus housing in the immediate area.

Graduate students are invited to take meals in the University dining halls under one of the food plans available. The Snack Bar also is available for single meals.

HEALTH SERVICE

Graduate students who wish to use the on campus Health Service may do so by paying the health fee at the Bursar's Office. At that time they will be issued a Health Service Identification Card. For a description of the Clark University Health Service, see the listing under Student Services of the Undergraduate College.

HEALTH INSURANCE

Before registering for classes all graduate students are *required* to demonstrate adequate medical insurance coverage. Students may enroll in the Clark University Student Health Insurance Plan or in a Blue Cross-Blue Shield Plan. Applications for insurance plans are available at the Graduate School Office.

Graduate Tuition and Other Charges

Tuition and nonresident fees are due and payable within 30 days of date of issuance of invoice. Accounts 30 days or more past due are assessed interest at the rate of 1 percent per month (annual rate 12 percent). Identification cards are provided each year of residence. A late registration fee of $25 is charged if registration is not completed by the end of the first week of the semester. Candidates who are not in residence must pay the nonresident fee until the requirements for the degree are fulfilled; nonpayment automatically will terminate candidacy.

SCHEDULE OF TUITION AND OTHER CHARGES

TUITION

Full-time graduate students are charged tuition of $3,150 per semester. The per course charge varies according to the department in question and its specific definition of a full program (i.e., in departments that define a full load as four courses per semester, the per-course charge is $787.50). Students should contact their department chairs to find out which scale applies.

Part-time degree candidates are charged tuition per course according to the scale used by the department in which they are registered.

Special graduate students (nondegree candidates) are charged $787.50 per course.

Other Fees—payable at registration:

Health Fee (optional)	$ 80
Health and Accident Insurance (mandatory)	
Single Students	$120
Married Student and Spouse	$271
Family Plan	$345
Student and Child/Children	$194

Diploma Fee—payable at the time the thesis or dissertation is deposited with the Registrar.**

Master's Degrees	$25
Doctor of Philosophy Degrees	$85
Doctor of Education Degrees	$85

Nonresident Candidate Fees—payable on November 1 and March 1. If the thesis or dissertation is deposited with the registrar before either date, no fee is charged for the semester. The fees double upon renewal of candidacy.

Master's Candidates	$100
Doctoral Candidates	$100

Inquiries concerning tuition and fees for the master of business administration program should be made directly to the Department of Management, Clark University.

** Students who do not write a thesis or dissertation, including those receiving the degree through the alternative program, must pay this fee no later than the date on which theses are due in the Registrar's Office.

Inquiries concerning tuition and fees for the following programs should be made to the College of Professional and Continuing Education, Clark University: master of health administration, master of public administration, master of arts in liberal arts, and the master of science in public health.

REFUND

A student who officially withdraws in writing during the first two weeks of any semester is allowed a refund of 60 percent of tuition; during the third week, 40 percent; during the fourth week, 20 percent; after the fourth week, there is no refund. There is no refund on other charges, except board, when a student withdraws from the University.

Departments and Courses

American Studies

PARTICIPATING FACULTY

Ronald P. Formisano, Ph.D., Professor of American History, Program Director
Albert A. Anderson, Ph.D., Associate Professor of Philosophy
James F. Beard Jr., Ph.D., Professor of English
George A. Billias, Ph.D., Professor of History
John Blydenburgh, Ph.D., Professor of Government and International Relations
Martyn J. Bowden, Ph.D., Professor of Geography
Morris H. Cohen, Ph.D., Professor of Government
John J. Conron, Ph.D., Associate Professor of English
James P. Elliott, Ph.D., Associate Professor of English
Bonnie Lee Grad, Ph.D., Assistant Professor of Art History
Anthony W. Hodgkinson, Associate Professor of Screen Studies
Douglas L. Johnson, Ph.D., Associate Professor of Geography
William A. Koelsch, Ph.D., Associate Professor of Geography and History
Sharon Krefetz, Ph.D., Associate Professor of Government and International Relations
Robert J. Ross, Ph.D., Associate Professor of Sociology

AMERICAN STUDIES CONCENTRATION

At present, the American Studies Program at Clark is neither a department nor a major but a *concentration* of seven required courses designed both as an extension of traditional majors and as a coherent undertaking in itself.

Concentration in the American Studies Program offers an interdisciplinary approach to the study of those human values that define American culture and variously manifest themselves in physical, social, and intellectual environments—in events, in institutions, and in the arts (primarily literature, painting, film, and architecture). The concentration has two aims: One is to enable students to analyze closely a variety of 'texts' (a group of people, a house, a poem) and to place these in a cultural 'context,' which brings them into relation with each other. The other is to enable students to arrive at an understanding of American culture as a pattern of values, which permeates American space and changes over time.

Since this course of study is not in itself a discipline but rather a conversation between disciplines, the concentration is based on a conviction that the basis of this conversation is fluency in—or at least acquaintance with—traditional disciplines in the humanities and the social sciences. Students are therefore expected to augment their major discipline with introductory work in two other disciplines. They are further expected to integrate and focus their study of American culture in the program offerings. Finally, they will be encouraged to study, beyond the introductory level, things of interest in the more than 30 courses on American subjects offered at Clark and at affiliated institutions.

Students concentrating in American studies are required to take:

1) three core courses: Introduction to History and American Studies; American Culture and Society, 1820–1860; and American Thought and Culture Since 1860.
2) four courses in either an American history/literature or an American history/geography sequence. Students interested in the American history/literature sequence would elect two of following history courses: 200, 201, 202, 206, 208, 209, 219, or 221; and both semesters of English 101. Students interested in the American history/geography sequence may include any two of the history courses listed above and two of the following geography courses: 252, 253, 255, or 272.
3) senior level work in courses of an interdisciplinary nature such as, the existing cluster courses on landscape, sport, and culture and space that have an American focus, or a senior seminar. Consultation with the program director in senior level course work is strongly recommended.

AMERICAN STUDIES ELECTIVES

More than 30 courses in American subjects are taught at Clark and affiliated institutions. A list of these courses is available in the History and English Departments.

COURSES

INTRODUCTION TO HISTORY AND AMERICAN STUDIES

This course is an introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. Offered for credit as English 110 and History 110.
Mr. Ford

AMERICAN CULTURE AND SOCIETY, 1820-1860

This course is an interdisciplinary study of the emergence of America as a nation and as a distinctive culture. Attention will be paid to the cultural geography, the arts (primarily literature and painting), and to some significant political and social issues of the period. Some of the germinal works in American studies (Leo Marx's *The Machine in the Garden* and R.W.B. Lewis's *The American Adam,* for example) will be read to provide

contexts for the study of representative cultural and social expressions of the period. The course will include field trips. Offered for credit as History 240 and English 240.
Mr. Conron, Staff

AMERICAN THOUGHT AND CULTURE SINCE 1860

The course examines selected cultural patterns and themes in American thought from the Civil War onward. Readings and discussions draw on multiple disciplinary perspectives. Offered for credit as History 241 and English 241.
Mr. Conron, Staff

Art

See Department of Visual and Performing Arts.

Astronomy

PROGRAM FACULTY

Roy S. Andersen, Ph.D., Professor of Physics, Program Chair

UNDERGRADUATE PROGRAM

Two courses are available at the introductory level. Advanced topics directly relating to astronomy are listed under Physics. Students interested in advanced work in astronomy should consult with the instructor or the physics undergraduate adviser.

COURSES

1 EXPLORING THE UNIVERSE

This course is explicitly designed for the non-science major who wishes to learn about the stars. It is also intended to provide for the interests of the student who seeks an acquaintance with the concepts and methods of science but who does not wish to go into the depth of the typical introductory science survey course. Topics considered are interdisciplinary in character since astronomy involves physics, chemistry, biology, and geology. The use of mathematics is minimized; only simple algebra is utilized. Half of the course is devoted to consideration of the planets and the sun. In the other half of the course, the stars, their life cycles, and the galaxies are studied. Theories of the composition and origin of the solar system, of the universe, and of life are explored. The heavens are best understood by having students make direct observations of celestial objects. Emphasis is, therefore, placed on the making, analyzing, and reporting of observations on the moon, sun, planets, meteors, stars, variable stars, nebulas, and galaxies. Students make these observations using telescopes in the University observatory as well as on several night field trips.
Mr. Andersen

2 BLACK HOLES AND COSMOLOGY

This course also is designed for the non-science major who wishes to explore in greater depth the nature of the universe. Following a review of the composition of the universe, consideration will be given to the properties of space and time. These will lead to the formulation of a general description of the universe. From this will come the prediction of the existence of black holes. The various cosmological theories will be examined in detail, along with supporting or refuting evidence obtained through optical, radio, and X-ray astronomy. Illustrative exercises will be employed. Offered in alternate years. Prerequisite: Astronomy 1 or permission of instructor.
Mr. Andersen

Biochemistry

PROGRAM FACULTY

John J. Brink, Ph.D., Professor of Biochemistry, Adjunct in Chemistry
Donald J. Nelson, Ph.D., Associate Professor of Chemistry, Adjunct in Biology
George E. Wright, Ph.D., Associate Professor of Chemistry (Affiliate)
Michael Novak, Ph.D., Assistant Professor of Chemistry

PROGRAM

The Biochemistry Program at Clark is designed to serve three types of students with a basic interest in the health related sciences: 1) students wishing to enter the field of biomedical laboratory technology upon completion of their undergraduate degree, 2) students wishing to pursue graduate studies in the biomedical sciences, and 3) students wishing to enter medical school with a strong instrumental and biophysical background. Because of the highly specialized nature of the program, students may only be formally admitted after successful completion of Organic Chemistry (Chem 130 or 132). Admission is contingent upon the approval of the Biochemistry Advisory Committee (composed of all participating faculty members) and the permission of a faculty research adviser.

PROGRAM REQUIREMENTS

The basic requirements for the biochemistry major are: one course in mathematics beyond Math 11, two semesters of Introductory Physics (Physics 11 or 12) plus laboratory and three nonscience courses, of which one must be beyond the introductory level. The program requirements from within the Biology Department's curriculum are: two semesters of Introduction to Biology (Biology 100), one semester of either Genetics (Biology 118) or Microbiology (Biology 109) and one semester of either Cellular Biology (Biology 137) or General Animal Physiology (Biology 240). The requirements from within the Chemistry Department are: two semesters of Introductory Chemistry (Chemistry 100 or 102), two semesters of Organic Chemistry (Chemistry 130 or 132) and one semester of Physical Chemistry I (Chemistry 160). Following is a list of required biochemistry courses:

Bioanalytical Chemistry (Biochemistry 144)
Biophysical Chemistry (Biochemistry 164)

Biochemistry (Biochemistry 270)
Biochemistry Research (Biochemistry 214)
Biochemistry Honors Course (Biochemistry 215)
In addition, students must complete one additional course from the biochemical sciences, such as:
Nutrition (Biology 170)
Protein Chemistry (Biochemistry 272)
Neurochemistry (Biochemistry 273)
Pharmacology (Biochemistry 278)

THE CAPSTONE EXPERIENCE

The culmination of the student's undergraduate biochemistry experience (the capstone experience) is the senior Research Project. The merging of learned theoretical biochemical concepts and acquired practical skills takes place in this exposure to semi-independent biochemical research.

COURSES

144 BIOANALYTICAL CHEMISTRY

Refer to course description under Chemistry 144.
Staff

164 BIOPHYSICAL CHEMISTRY

This rigorous course in physical chemistry, offered as an alternative to Chemistry 162, emphasizes the physical chemistry of biological systems: enzyme kinetics, spectroscopy of biological systems, macromolecules, transport processes, and X-ray diffraction. Prerequisite: Chemistry 160. Three lectures and one four-hour laboratory per week. Also listed for credit as Chemistry 164.
Mr. Nelson

214 SPECIAL PROJECTS

Individual investigations involving laboratory and/or literature research. Offered for variable credit.
Staff

215 HONORS COURSE

The honors course, primarily for majors seeking departmental honors in biochemistry, involves a laboratory research project and participation in departmental seminars. Offered for variable credit.
Staff

239 BIO-ORGANIC CHEMISTRY

This course deals with the chemistry involved in some biologically important reactions, particularly acyl and phosphoryl group transfer reactions, and oxidation-reduction reactions. Information from *in vivo* and *in vitro* studies of biological systems will be coordinated with knowledge developed from model studies with small molecules in an attempt to develop a cohesive picture of the chemical mechanisms of these biological reactions. The type of information that can be obtained from kinetic studies, isotopic substitution, transition state analogs, inhibition studies, model studies, etc. will be discussed. An in-depth discussion of the factors involved in enzymic catalysis is an important part of this course. Other topics, which may be covered if time permits, include the biosynthesis of

terpenes and steroids, and the chemistry of various cofactors including flavin, heme, biotin, etc. Prerequisite: Chemistry 130 or 132. Three lectures per week. Also listed for credit as Chemistry 239.
Mr. Novak

270a and b BIOCHEMISTRY

This is a two-semester course in which the option of taking only the first semester is available to those students not intending to do advanced studies in biochemistry. The course will consider the basic principles and mechanisms of biochemical reactions in metabolic transformations of cell nutrients. The regulation of these processes by enzymes, genes, and hormones will be considered in the light of modern theories of biochemical processes. A laboratory component for the first semester will acquaint students with methods and instrumentation of biochemical research such as radioisotope techniques. The second semester will cover advanced topics in biochemistry. Prerequisite: Chemistry 130. Three lectures and one lab per week. Also listed for credit as Biology 270a and b and Chemistry 270a and b.
Mr. Brink, Mr. Nelson

271 BIOCHEMISTRY OF NUCLEIC ACIDS

Refer to course description under Biology 271.
Mr. Brink

272 PROTEIN CHEMISTRY

This lecture course discusses the structure and function of biologically important macromolecules. Particular emphasis is placed on proteins (enzymes and noncatalytic proteins), protein synthesis from nucleic acids, and the structure and function of biological membranes. Prerequisite: Chemistry 130. Also listed for credit as Chemistry 272. (Formerly Chemistry 270.)
Mr. Brink, Mr. Nelson

273 NEUROCHEMISTRY

The metabolic aspects of brain amines and biopolymers will be considered in relation to neural function. Effects of drugs on memory processes will be discussed in terms of biochemical mechanisms. Prerequisite: Biochemistry 270. Also listed for credit as Biology 273.
Mr. Brink

278 PRINCIPLES OF PHARMACOLOGY

Refer to course description under Biology 278. Also listed for credit as Chemistry 278.
Mr. Brink, Mr. Wright, Mr. Nelson

Biology

DEPARTMENT FACULTY

Vernon Ahmadjian, Ph.D., Professor of Botany, Department Chair
John J. Brink, Ph.D., Professor of Biochemistry
Joseph C. Curtis, Ph.D., Professor of Zoology
Rudolph F. Nunnemacher, Ph.D., Professor of Zoology
John T. Reynolds, Ph.D., M.P.H., Professor of Microbiology

H. William Johansen, Ph.D., Associate Professor of Botany
Timothy A. Lyerla, Ph.D., Associate Professor of Developmental Genetics
Nicholas S. Thompson, Ph.D., Associate Professor of Psychology and Ethology
M. Margaret Comer, Ph.D., Assistant Professor of Molecular Biology
Todd P. Livdahl, Ph.D., Assistant Professor of Ecology
Dennis Meiss, Ph.D., Assistant Professor of Physiology
Monica Tsang, Ph.D., Research Assistant Professor of Microbiology
Donald J. Nelson, Ph.D., Associate Professor of Chemistry, Adjunct Associate Professor of Biology

Affiliated Staff

Warren Litsky, Ph.D., Professor of Microbiology
Leonard J. Morse, M.D., Professor of Microbiology
Jinnque Rho, Ph.D., Assistant Professor of Microbiology
Harris Rosenkrantz, Ph.D., Professor of Biochemistry

UNDERGRADUATE PROGRAM

The Biology Department views as its primary roles for undergraduate education within the University: to train biologists in a preprofessional sense, for those individuals entering careers that use the biological sciences as their bases; to provide support for other programs in the University that require some exposure to biology for their fulfillment; and to integrate the paradigm of the biological sciences into a liberal arts curriculum. Its goals for its majors relate directly to the development of an independent or autonomous learner, particularly since this development is required for anyone who is to remain current with the ever-increasing body of knowledge in this field. With respect to its undergraduate majors then, the department attempts:

1. to provide an updated, coherent statement of the field—a curriculum organized to reflect the inherent organization of the discipline.
2. to familiarize the student with the process by which biological information is acquired by exposing particularly the interrelationships between experiment and theory.
3. to develop a critical facility in its students, an ability to judge quality work within this field.

The major in biology is suitable for those intending to apply for graduate studies in biology, medicine, dentistry, etc. Courses in the major must be taken for the letter grades, unless otherwise specified.

A departmental major must take eight courses in biology of which six must be courses more advanced than the introductory course. However, only two of the six courses may be in directed research, directed readings, or an internship. The "Introductory Biology Year-course" will be prerequisite for all other courses in biology, but students must fulfill prescribed prerequisites for specific courses.

A biology major must take, in related fields, a year of General Chemistry, a year of Introductory Physics, and at least one additional year course in chemistry, physics, or geology including in each case the laboratory for a total of six semester or three year courses. Additionally, the major in biology must take a full year of calculus. None of the aforementioned courses may be taken on a "pass/no-record" option.

At least nine courses of a major's program must be taken from courses outside the fields of biology, chemistry, geology, mathematics, physics and must not include any of the courses specified in the preceding paragraphs.

Effective for biology majors entering Clark University in September 1979, or later, each student will be required to take at least one course from each of the following four groups: (1) Invertebrate Zoology, Comparative Anatomy, Embryology; (2) Introductory Botany, Microbiology; (3) Cellular Biology, Animal Physiology, Biochemistry; (4) Genetics, Ecology, Animal Behavior. Since Animal Physiology and Biochemistry have prerequisites of Introductory Chemistry and Organic Chemistry, respectively, these courses most likely would be taken during the junior and senior years.

The department urges all potential majors to select and to consult with an adviser to obtain the maximum benefits the department has to offer.

HONORS PROGRAM

An honors program is available to especially well-qualified majors and requires the student to engage in an independent research project during the senior year together with meeting other departmental requirements, i.e., a broad distribution of courses, quality grades, and an honors thesis and examination. Frequently, the honors project is the continuation of research begun during the summer.

Specific criteria for admission to the honors program are available in the departmental office.

GRADUATE PROGRAM

The department offers courses leading to master of arts and doctor of philosophy degrees in specialized phases of bacteriology, biochemistry, botany, cytology, embryology, genetics, marine biology, physiology, and zoology. Admission to the graduate program assumes adequate preparation in the basic sciences, an overall undergraduate record of B or better, and satisfactory standing in the Graduate Record Examination. Tuition scholarships and teaching assistantships are available. Detailed information can be obtained from the department chair.

PUBLIC HEALTH PROGRAM

The department offers a program of study leading to the master of science in public health degree. For particulars of the program, interested persons are referred to the COPACE graduate catalog. This program is currently being expanded into a five-year program leading to both baccalaureate and M.S. degrees.

MASTER OF ARTS

The program usually requires three or four semesters of academic work and includes teaching experience and research culminating in an acceptable thesis.

DOCTOR OF PHILOSOPHY

The requirements, identical with those of the University, can be found in the catalog section on the Graduate School and includes teaching experience. The student's program is planned according to his/her needs with his/her program director.

COURSES

100 INTRODUCTION TO BIOLOGY

The introductory course in biology is designed with three goals in mind: (1) to provide students with an understanding of the unifying principles in

biology; (2) to introduce students to the diversity of plant and animal life, both at the cellular and organismic level, showing how this diversity is expressed through adaptations in form and function; and (3) to expose the student to methods and modes of scientific inquiry in the biological sciences. Introduction to Biology serves as a prerequisite for all other courses in biology. Three lectures and one laboratory per week.
Staff

101 PALEO-ZOOLOGY

This is an interdepartmental course in geology and biology combining a systematic survey of the morphology, taxonomy, and geologic history of groups of animals commonly found as fossils with their evolution to present-day forms. Three lectures and one laboratory period each week including field trips.
Mr. Nunnemacher

104 PLANTS AND MAN

This is a course exploring the plants and plant products that have helped shape the development of man. Included will be cereal crops, forests and forest products, beneficial and harmful fungi, selective breeding of useful plants, historical aspects of agriculture, useful and destructive acquatic plants, noncereal food plants, drugs and medicinal plants, and future food supplies.
Mr. Johansen

105 BIOLOGY AND MAN

This is an introductory course intended for those who do not plan to major in biology. The course surveys the animal kingdom and emphasizes the relationships of various animals to man. Man is considered the example of an animal's solution to problems in metabolism, irritability, and reproduction. As far as possible, man's relation to current biological problems of ecology, etc. will be discussed. Not for biology major credit.
Mr. Nunnemacher

107 MARINE ECOLOGY OF BERMUDA

This is a 10-day field study at the Bermuda Biological Station. Offered for credit by special arrangement.
Mr. Nunnemacher

109 MICROBIOLOGY

This is a survey of the protists (with emphasis on the bacteria), their activities, and the methods by which they are studied. Three lectures and three hours of laboratory work per week (limited to 40 students). Also listed for credit as Environmental Affairs 109.
Mr. Reynolds

110 INTRODUCTION TO BOTANY

In this course, the diversity and scope of plants are considered from an evolutionary viewpoint. Included are the structure and function of algae, fungi, and vascular plants. The role of plants in various ecosystems, as well as their positive and negative relationships to people, also are treated. Three lectures and one laboratory per week.
Mr. Ahmadjian, Mr. Johansen

112 COMPARATIVE ANATOMY

This is a comparative study of the morphology of the vertebrates with emphasis on the evolution of animals from fish to man. Two lectures and two laboratory periods per week.
Mr. Nunnemacher

115 FLOWERING PLANTS

This course is an introduction to the classification, evolution, ecology, and economic importance of flowering plants, with emphasis on the New England flora. Ferns, fern-allies, and gymnosperms will also be included. Short field trips will be made to nearby areas for examination of the spring flora. Two two-hour lecture laboratory periods per week.
Mr. Ahmadjian

117 PRINCIPLES OF ECOLOGY

This is a course in basic ecological theory governing organism-environment interrelationships. Population dynamics, energy flow, biogeography, community ecology, as well as ecological methods, and environmental problems will be included. Three lectures per week.
Mr. Livdahl

118 GENETICS

This is a course in the principles and problems of genetics. Topics covered include Mendelian genetics; the molecular nature and function of the gene; gene and chromosome mutation; genetic mapping in bacteriophages, bacteria, fungi, and higher organisms; and population genetics. Prior exposure to freshman chemistry is recommended.
Ms. Comer, Mr. Lyerla

120 HISTOLOGY

The microscopic anatomy of tissues and organs of mammals will be studied. Prerequisite: 112. Two lectures and two laboratory periods per week.
Mr. Nunnemacher

126 HUMAN GENETICS

A basic course in genetics for the non-biology major emphasizing methods of genetic analysis in humans and the role of genetics in modern society. Topics to be covered include: genetic diseases, chromosomal abnormalities, genetic screening, statistical analyses for polygenic traits, and population genetics.
Mr. Lyerla

137 CELLULAR BIOLOGY

The cell as a structural and functional unit will be studied. Introduction to the physiochemical properties and metabolic roles of molecules and macromolecules of cellular origin. Discussion of the roles of the nucleus and cytoplasm in the regulation of cellular processes. Three lectures per week. Prerequisite: 100 or permission of instructor.
Mr. Curtis

170 HUMAN NUTRITION

The perspective of human health will be studied from the point of view of biological regulatory processes. The basic components of food will be

presented, and their biological function of maintaining human growth and vitality will be studied. The role of food additives and cultural variations in diet in regard to pathology will be discussed.
Mr. Brink

181 BIOLOGICAL DETERMINISM AND BEHAVIOR
Refer to course description under Psychology 195.
Mr. Thompson

182 PRINCIPLES OF BEHAVIORAL EVOLUTION I: FUNDAMENTALS
Refer to course description under Psychology 135.
Mr. Thompson

211 SEMINAR IN SYMBIOSIS
The many different aspects of plant and animal symbiotic associations will be studied using original research articles. Along with the descriptive and functional aspects of each type of association, the experimental techniques used to study the relationships between the symbionts will be examined.
Mr. Ahmadjian

213 PLANT PHYSIOLOGY
This is an introduction to the function and chemistry of plants. Three lectures and one laboratory period per week. Prerequisite: one course in botany and one in chemistry.
Mr. Brink, Mr. Johansen

214 SEMINAR IN PHYCOLOGY
Selected topics dealing with algae from the structural, physiological or ecological points of view will be discussed. Prerequisite: 110 or permission of instructor.
Mr. Johansen

217 MARINE BIOLOGY
This course is an introduction to plant and animal life in the oceans from the point of view of diversity, ecology, and evolution. Also included will be the relationships of marine biology to the welfare of mankind.
Mr. Johansen

219 LABORATORY IN ETHOLOGY
Refer to course description under Psychology 200.
Mr. Thompson

221 ANIMAL DEVELOPMENT
This is a consideration of the fundamentals of animal development with primary emphasis on the vertebrate embryo. Three lectures and one laboratory period per week. Prerequisite: 112 or permission of instructor.
Mr. Lyerla

224 NEUROANATOMY
The structural and functional organization of the central nervous system of man will be studied. Prerequisite: 112 or permission of instructor. Three lectures per week.
Staff

225 ELECTRON MICROSCOPY

This is an introduction to the principles of electron optics, use of the electron microscope, preparation of specimens and the techniques of electron microscopy applicable to biological investigations. Two lectures and two laboratory periods per week. Prerequisite: permission of instructor.

Mr. Curtis

228 MOLECULAR GENETICS

This course is designed to acquaint the student with recent discoveries in the field. It will include lectures on key techniques such as recombinant DNA methodology and DNA sequencing, plus seminars and/or informal discussion on specific topics. The latter will include such things as DNA replication and recombination mechanisms, transcriptional regulation, overlapping genes, and split genes (intervening sequences). Emphasis is placed on the reading of original journal papers. Intended primarily for seniors and graduate students. Prerequisites: 118 or 270.

Ms. Comer

229 ADVANCED TOPICS IN GENETICS

This course is a lecture-seminar format designed to review specialized topics in genetics. Prerequisite: 118; permission of instructor.

Mr. Lyerla

230 VIROLOGY

This course is an up-to-date survey of the viruses, with emphasis on their structures and the molecular mechanisms by which they reproduce themselves. Viruses covered include virulent and temperate bacteriophages, RNA and DNA animal viruses (including tumor viruses), and plant viruses. Intended for advanced undergraduates and graduate students. Prerequisites: 109 or 118 or 270.

Ms. Comer

232 SELECTED TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH

This is a seminar for advanced undergraduates and beginning graduate students. Prerequisite: Permission of instructor. Two 75-minute meetings per week. Also listed for credit as Environmental Affairs 232.

Mr. Reynolds

235 SEMINAR IN CELLULAR BIOLOGY

Prerequisite: Biology 137 or permission of instructor.

Mr. Curtis

238 ISSUES IN PUBLIC HEALTH

Prerequisite: permission of instructor. Also listed for credit as Environmental Affairs 238.

Mr. Reynolds

239 BIOLOGICAL AND HEALTH ASPECTS OF WATER POLLUTION

This is an attempt to deal with those problems associated with water pollution that are amenable to solution through the application of concepts and approaches of the biological sciences. The participants do not have to be biology majors but will be expected to be literate in one or more of the

scientific disciplines. Prerequisite: permission of instructor. Two 75-minute meetings per week. Also listed for credit as Environmental Affairs 239.
Mr. Reynolds

240 ANIMAL PHYSIOLOGY

This is an introduction to the principles underlying physiological functions common to all living animals. The course covers the subcellular, cellular, and organ levels of organization and places a primary emphasis on the integrative processes whereby all of the diverse organs and systems are oriented to the performance of the complete organism. Prerequisite: Introductory Chemistry. Three lectures and one lab per week.
Mr. Meiss

247 SEMINAR IN NEUROPHYSIOLOGY

This is a seminar on the principles of transmission, integration, and storage information in neuronal pathways and other considerations of the nervous system and muscles. Prerequisite: 249 or permission of instructor.
Mr. Meiss

249 PRINCIPLES OF NEUROPHYSIOLOGY

This is a comparative approach to the physiology of nervous systems and muscle. The emphasis is on cellular neurobiology including resting and action potentials, synaptic transmission, sensory physiology, and integrative mechanisms. Three lectures and one lab per week. Prerequisite: 240, Introductory Physics, or permission of instructor.
Mr. Meiss

260 DIRECTED RESEARCH

This is an advanced semi-independent study of an approved topic under the direction of a departmental member. Prerequisite: permission of instructor.
Staff

261 DIRECTED READINGS

Advanced readings on an approved topic will be under the direction of a departmental member. Prerequisite: permission of instructor.
Staff

262 HONORS IN BIOLOGY

Readings and research for students in the honors program. Credit/no record only.
Staff

270a and b BIOCHEMISTRY

This is a two-semester course in which the option of taking only the first semester is available to those students not intending to do advanced studies in biochemistry. The course will consider the basic principles and mechanisms of biochemical reactions in metabolic transformations of cell nutrients. The regulation of these processes by enzymes, genes, and hormones will be considered in the light of modern theories of biochemical processes. A laboratory component for the first semester will acquaint students with methods and instrumentation of biochemical research, such as radioisotope techniques. The second semester will cover advanced topics

in biochemistry. Prerequisite: Chemistry 130. Three lectures and one laboratory per week. Also listed for credit as Biochemistry 270a and b and Chemistry 270a and b.
Mr. Brink, Mr. Nelson

271 BIOCHEMISTRY OF NUCLEIC ACIDS

The chemical and physical properties of RNA and DNA derived from various sources will be considered with respect to their isolation, separation, and characteristics. The functional role and biological significance of the nucleic acids in subcellular organelles will be examined. Prerequisite: Biology 270 or permission of instructor. Also listed for credit as Biochemistry 271.
Mr. Brink

273 NEUROCHEMISTRY

The metabolic aspects of brain amines and biopolymers will be considered in relation to neural function. Effects of drugs on memory processes will be discussed in terms of biochemical mechanisms. Prerequisite: Biochemistry or permission of instructor.
Mr. Brink

278 PRINCIPLES OF PHARMACOLOGY

This course is intended to acquaint the student or research worker with established principles and the more important phenomena involved in the study of pharmacology. Particular emphasis is placed on the quantitative aspects of the interaction of chemical compounds or drugs with biological systems. The principal pharmacological actions of several important drugs are illustrated. Also listed for credit as Biochemistry 278 and Chemistry 278. (Formerly Biology 268 and Chemistry 268.)
Mr. Brink, Mr. Nelson

300 READINGS AND RESEARCH IN BIOLOGY

Offered for variable credit.
Staff

310 SCIENTIFIC WRITING FOR GRADUATE STUDENTS

This is an introduction to the techniques of writing scientific papers. The principal assignment will be the writing of a journal article and a detailed analysis of the steps involved. Related areas which will be covered include searching the scientific literature, handling of quantitative data relevant to biological systems, and oral presentation of a scientific paper. Prerequisite: permission of instructor.
Mr. Ahmadjian

315 SEMINAR IN LICHENOLOGY

This is a detailed, yet broad, treatment of lichens with discussion of recent theories concerning their evolution and development. Symbiotic interactions, ecology, growth, nutrition and metabolism, water relations, chemistry, and genetics will be considered. Several local field trips and laboratory sessions will be held to deal with aspects of taxonomy and morphology.
Mr. Ahmadjian

325 SEMINAR IN ULTRASTRUCTURE

The structure of macromolecules and subcellular organelles in relation to

their biological functions will be discussed. Evidence obtained by a variety of physical and chemical methods will be considered, particular emphasis being placed on electron microscopic studies. Prerequisite: permission of instructor.
Mr. Curtis

332 SEMINAR IN BACTERIOLOGY
Selected topics in bacterial ecology and applied bacteriology will be discussed. Prerequisite: permission of instructor.
Mr. Reynolds

334 SEMINAR IN BEHAVIOR AND EVOLUTION
This is a consideration of contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. Also listed for credit as Psychology 267.
Mr. Thompson

341 SEMINAR IN ENDOCRINOLOGY
Discussions in this course focus upon current literature on the chemistry and biological actions of hormones. Integration of studies of the fine structure and biochemistry of endocrine glands and their target tissues is emphasized.
Mr. Curtis

350 GRADUATE SEMINAR
Staff

360 MASTER'S THESIS
Offered for variable credit.
Staff

390 DOCTORAL DISSERTATION
Offered for variable credit.
Staff

Business/Management

See Department of Management.

Chemistry

DEPARTMENT FACULTY

Alan A. Jones, Ph.D., Associate Professor of Chemistry, Acting Chair
Daeg S. Brenner, Ph.D., Professor of Chemistry
Harry C. Allen Jr., Ph.D., Professor of Chemistry, Dean of the Graduate School, Coordinator of Research
Karen L. Erickson, Ph.D., Professor of Chemistry
Edward N. Trachtenberg, Ph.D., Professor of Chemistry
Wen-Yang Wen, Ph.D., Professor of Chemistry
Donald J. Nelson, Ph.D., Associate Professor of Chemistry
Frederick T. Greenaway, Ph.D., Assistant Professor of Chemistry

Michael Novak, Ph.D., Assistant Professor of Chemistry
John J. Brink, Ph.D., Professor of Biochemistry, Adjunct Professor of Chemistry
Marcel Gut, Ph.D., Professor of Chemistry (Affiliate)
David Kupfer, Ph.D., Professor of Chemistry (Affiliate)
George E. Wright, Ph.D., Associate Professor of Chemistry (Affiliate)

UNDERGRADUATE PROGRAM

The Chemistry Department offers an undergraduate program with the following goals in mind:

1) to provide a variety of course offerings that are consistent with the accreditation requirements of the American Chemical Society;
2) to offer a program that will prepare students for graduate work in chemistry and related fields;
3) to provide a strong scientific background for students planning careers in health-related professions;
4) to encourage students not majoring in science to obtain an overview of the impact of science on society.

The requirements for the chemistry major are two courses in mathematics beyond Mathematics 11, two courses in physics (Physics 11 or 12 and Physics 19 or 119) and eight courses in chemistry and related fields beyond Chemistry 100 or 102. These courses must include:

Course	*Number*	*Course Credit*
Organic Chemistry	130 or 132	2
Inorganic Chemistry	150	1
Physical Chemistry I	160	1
Physical Chemistry II or	162	
Biophysical Chemistry	164	1
Environmental Chemistry or	142	
Analytical Biochemistry	144	1
		Total 6

The remaining two-course requirement is normally satisfied by advanced chemistry courses, one of which may be Chemistry 214, Special Projects; or Chemistry 215, Honors. On occasion, with permission from the department, the student may substitute an advanced level course in biochemistry, computer science, mathematics, physics or biology. In addition, at least six courses in a major's program must be taken from courses outside the fields of biology; biochemistry; computer science; chemistry; geology; mathematics; physics; science, technology and society; and environmental affairs.

Students planning graduate study in chemistry are strongly urged to take Physics 12 and 119 rather than Physics 11 and 19. In addition to the stated requirements, it is recommended that students take Chemistry 135, 200, 230 and/or advanced mathematics, physics and biochemistry courses, depending on the area of interest. A reading knowledge of German, French, or Russian and computer languages also is recommended. All chemistry majors are encouraged to undertake independent research projects either as a candidate for honors (Chemistry 215) or in a special projects course (Chemistry 214) and may do so after completing Chemistry 160.

A student may elect as his/her first course in chemistry—Chemistry 10, 100, 102, 130, or 132. The decision to start with Chemistry 130 or 132 (all accelerating options) must be made in consultation with the department and may require taking a placement examination offered at the beginning of the academic year.

Students wishing to be accredited by the American Chemical Society should consult the department chair with regard to specific course requirements.

HONORS PROGRAM

An honors degree program is offered for highly qualified majors. Students wishing to enter this program should apply to the department for permission prior to the beginning of senior year. Participants are required to engage in an independent research project, participate in the departmental seminar program, and pass a set of comprehensive examinations. Further information about the program can be obtained from the department chair.

GRADUATE PROGRAM

The department offers programs leading to the degrees of master of arts and doctor of philosophy with specialization in various fields of chemistry. Emphasis is placed on tailoring programs to fit the specific needs and desires of the graduate student. To facilitate this goal, a committee of interested faculty works with each student to advise and review his/her progress in research work and, together with the student, defines the formal course work requirements. In the case of master's degree candidates, the requirements are essentially those of the University as stated elsewhere in the catalog. Up to one year's equivalent of teaching apprenticeship will be required of all candidates for advanced degrees.

In addition to formal course work, the student must pass qualifying and preliminary examinations, and the department language requirement must be met. For further details, students should consult the appropriate departmental publications.

Graduate scholarships, teaching assistantships, and research fellowships are available. Further information on these awards may be obtained from the department chair.

COURSES

10 CHEMISTRY FOR THE CONCERNED CITIZEN

This one-semester, relatively nonmathematical course is designed for students majoring in social science or the humanities and is intended to develop a qualitative feeling about chemistry as it relates to the modern world. Approximately half of the course is concerned with the development of modern chemical thought, while the remainder deals with current societal problems such as nuclear weapons and reactors, air and water quality, drugs, food additives, polymers, poisons, and others. Three lectures per week.
Mr. Brenner

100 INTRODUCTORY CHEMISTRY

This systematic study of the elements and their principal compounds and of the fundamental laws and theories of chemistry is designed as an introduction to the field of chemistry. A knowledge of high school algebra is necessary; high school chemistry and physics, though helpful, are not required. This course is designed to meet the needs of chemistry majors, students interested in biology, physics, medicine, and dentistry as well as

those seeking a knowledge of chemistry as part of their liberal arts education. Three lectures, one recitation and one four-hour laboratory per week. Two lecture sections with enrollment in each limited to 75.
Staff

130 ORGANIC CHEMISTRY

The lectures emphasize the synthesis and reactions of organic compounds, structure determination, and reaction mechanisms. The laboratory concentrates on the preparation and physical, spectral, and chemical properties of important classes of organic compounds. Prerequisite: Chemistry 100 or 102 or advanced placement. Three lectures and one four-hour laboratory per week.
Staff

135 QUALITATIVE ORGANIC ANALYSIS

This laboratory study of the identification of organic compounds utilizes both classical chemical and modern instrumental techniques. Prerequisite: Chemistry 130 or 132 or permission of instructor. One hour conference and seven hours of laboratory per week.
Ms. Erickson

142 ENVIRONMENTAL CHEMISTRY

This course focuses on the chemistry related to environmental problems, particularly aquatic chemistry and aquatic pollution. Equilibrium theory is developed as a model for aquatic chemistry, and chemical analyses of local aquatic systems are conducted in the laboratory according to Environmental Protection Agency procedures. Prerequisite: Chemistry 100. Two lectures and one laboratory per week.
Staff

144 BIOANALYTICAL CHEMISTRY

This laboratory-oriented course presents both theoretical and practical aspects of quantitative analysis in biological systems. Topics discussed include chromatography, electrophoresis, immunochemistry, ultracentrifugation, absorption and fluorescence, enzyme analyses, and radioactivity counting procedures. Prerequisite: Chemistry 162.
Staff

150 INORGANIC CHEMISTRY

Included in this descriptive chemistry course of the elements are such topics as acid-base theory and ligand field theory. Prerequisite: Chemistry 100 or 102 or equivalent. Two lectures and one four-hour laboratory per week.
Mr. Greenaway

160 PHYSICAL CHEMISTRY I

The lectures cover principles of physical chemistry applied to gases, liquids, and solids; chemical thermodynamics; solution chemistry. The laboratory includes experiments in physical chemistry techniques of measurement and technical report writing. Prerequisite: Mathematics 12 and either Chemistry 100 or 102. Chemistry 130 or 132 is suggested as a pre-or corequisite. Prerequisite or corequisite: Physics 11 or a strong high school background in physics and enrollment in the recitation part of this

course. Three lectures, one four-hour laboratory, and one optional recitation every other week.
Mr. Wen

162 PHYSICAL CHEMISTRY II

The topics covered in this continued discussion of physical chemistry are solutions of the Schrodinger equation for simple systems, atomic and molecular spectroscopy, magnetic resonance, solid state and X-ray diffraction, statistical thermodynamics, and chemical kinetics. Three lectures, one four-hour laboratory, and one optional recitation every other week.
Mr. Wen

164 BIOPHYSICAL CHEMISTRY

Refer to course description under Biochemistry 164.
Mr. Nelson

200 PHYSICAL CHEMISTRY III

This is essentially an introduction to quantum mechanics and covers elementary quantum-mechanical treatment of the structure of atoms and molecules. Three lectures and one discussion per week. Prerequisites: Chemistry 160 and 162 or 164.
Staff

210 PHYSICAL CHEMISTRY IV

The course deals with the application of group theory to problems of chemical interest such as molecular vibrations, hybrid orbitals, and molecular orbital theory. Three lectures and one discussion per week. Prerequisite: Chemistry 200 or equivalent.
Staff

214 SPECIAL PROJECTS

Individual investigations involve laboratory and/or literature research. Offered for variable credit.
Staff

215 HONORS COURSE

The honors course, primarily for majors seeking departmental honors in chemistry, involves a laboratory research project and participation in departmental seminars. Offered for variable credit.
Staff

220 POLYMER SCIENCE

The physical chemistry of synthetic polymers will be presented including discussion of kinetic mechanisms of polymerization, molecular weight distributions, unperturbed dimensions, structure and conformation, viscosity, and dynamic properties. Specific experimental methods useful in polymer chemistry such as osmotic pressure, light scattering, gel permeation chromatography, viscoelastic response, nuclear magnetic resonance, and dielectric response also will be reviewed. Prerequisite: Chemistry 162.
Mr. Jones

224 ENERGY AND COAL

This course will include the following topics: the general character of coals and their structures, coal chemistry, gasification principles, thermochemis-

try and thermodynamics, energy efficiency and utilization, reaction kinetics and catalysis, various gasifiers, liquefaction principles, solvent refined coals, advanced analytical techniques, and environmental considerations. In this course, energy considerations in relation to coal conversions will be empasized. Prerequisites: Chemistry 100 or 102 and Chemistry 130 or 132. Three lectures per week; no laboratory.
Mr. Wen

230 PHYSICAL ORGANIC CHEMISTRY

This is a lecture course on the fundamentals of organic chemistry including molecular structure, acidity and basicity, kinetics, and mechanisms with emphasis on the most recent advances in organic chemical theory. Prerequisites: Chemistry 130 or 132, 160 or permission of the instructor.
Mr. Novak

233 ORGANIC CHEMISTRY OF BIOMOLECULES

This lecture emphasizes the synthesis, proof of structures, reactions, and reaction mechanisms of important classes of molecules playing significant biological roles. Topics discussed will be the carbohydrates, fats, proteins, and cyclic ureides, including the pyrimidenes and purines of importance in drugs and on nucleic acids. A selection of other molecules from the steroids, alkaloids, and terpenoids also will be discussed briefly. Prerequisite: one year of Organic Chemistry (130 or 132).
Mr. Trachtenberg

235 NATURAL PRODUCTS

The chemistry of selected naturally occurring compounds. Includes structure determination, synthesis, mechanistic interpretation of exotic transformations, and biogenetic theory. Prerequisite: Chemistry 130 or 132, 135 or permission of instructor. Three lectures and one four-hour laboratory per week.
Ms. Erickson

239 BIO-ORGANIC CHEMISTRY

This course deals with the chemistry involved in some biologically important reactions, particularly acyl and phosphoryl group transfer reactions, and oxidation-reduction reactions. Information from *in vivo* and *in vitro* studies of biological systems will be coordinated with knowledge developed from model studies with small molecules in an attempt to develop a cohesive picture of the chemical mechanisms of these biological reactions. The type of information that can be obtained from kinetic studies, isotopic substitution, transition state analogs, inhibition studies, model studies, etc. will be discussed. An in-depth discussion of the factors involved in enzymic catalysis is an important part of this course. Other topics which may be covered if time permits include the biosynthesis of terpenes and steroids, and the chemistry of various cofactors including flavin, heme, biotin, etc. Prerequisite: Chemistry 130 or 132. Three lectures per week.
Mr. Novak

242 NUCLEAR SCIENCE

This course covers the fundamentals of nuclear chemistry and physics: production, isolation, identification, and measurement of radioactive

atoms. Three lectures and three laboratory hours per week. Prerequisite: permission of the instructor.
Mr. Brenner

270a and b BIOCHEMISTRY

Refer to course description for Biochemistry 270a and b. Also listed for credit as Biology 270a and b.
Mr. Brink, Mr. Nelson

272 PROTEIN CHEMISTRY

Refer to course description for Biochemistry 272.
Mr. Nelson

278 PRINCIPLES OF PHARMACOLOGY

Refer to course description for Biology 278. Also listed for credit as Biochemistry 278.
Mr. Brink, Mr. Nelson, Mr. Wright

300 RESEARCH

Offered for variable credit.
Staff

322 THERMODYNAMICS

This lecture course discusses applications of three laws of thermodynamics to chemical systems.
Mr. Wen

323 STATISTICAL MECHANICS

This lecture course treats statistical mechanics as a bridge between molecular properties and thermodynamic functions, as applied to chemical systems.
Mr. Wen

333 SYNTHETIC ORGANIC CHEMISTRY

These lectures on synthesis of organic molecules emphasize scope and limitations of general methods, mechanism and stereochemistry, synthesis of carbon to carbon bonds, oxidation and reduction. Prerequisite: Chemistry 230 or permission of instructor.
Ms. Erickson

344 SELECTED TOPICS IN ADVANCED NUCLEAR CHEMISTRY

This is a discussion of the current experimental and theoretical literature in nuclear reactions, fission, and nuclear spectroscopy. Prerequisite: Chemistry 242 or its equivalent.
Mr. Brenner

350 SEMINAR

This seminar consists of reports on research and discussions of recently published work. Not offered for credit.
Guest Lecturers, Staff, Graduate Students

361 MOLECULAR STRUCTURE

This course concerns physical methods relevant to the determination of molecular structure and the characterization of molecular motion. Several

methods will be discussed although the emphasis will be on magnetic resonance.
Mr. Jones

369 ELECTRONIC SPECTROSCOPY

This is an introduction to the study of ultraviolet and visible absorption spectra as well as emission spectra. Prerequisite: permission of instructor.
Mr. Wen

379 SPECIAL TOPICS

This seminar course consists of research and literature; reports by graduate students and undergraduate honors candidates.
Staff

380 RESEARCH CONFERENCE

This conference consists of informal reports of research work being done in the laboratory. Not offered for credit.
Staff, Graduate Students

Classics

PARTICIPATING FACULTY

Paul F. Burke Jr., Ph.D., Associate Professor of Classics

The following courses in classical humanities are taught in English and are recommended to students as part of their general education and to majors in comparative literature, English, foreign languages and literatures, fine arts, history, music, and philosophy. Courses in Greek and Latin on all levels may be taken at the College of the Holy Cross through the Consortium.

COURSES

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHEOLOGY

This course is a general introductory survey of ancient Greek culture and history covering: the Bronze Age civilizations of Crete and Mycenae, the classical Greek city-states, the conquests of Alexander, and the emergence of international urban culture in the Mediterranean world. Readings in the works of ancient authors will be chosen to demonstrate cultural and intellectual life, political developments, social and family structure, and religion. Many lectures, such as those on art, architecture, and archeology, will be illustrated by slides. Also listed for credit as History 121.
Mr. Burke

122 INTRODUCTION TO ROMAN CULTURE, ART, AND ARCHEOLOGY

This is a survey of ancient Roman culture and history, continuing the work of Classics 121, and covering the rise of Rome in the Hellenistic world, the Roman Republic and Empire, the end of the ancient world, and the beginnings of Christian Europe. Reading in the works of appropriate ancient authors in translation will be supplemented by secondary texts and

by lectures on ancient art, politics, and religion. Many lectures will be illustrated by slides. Classics 121 is not a prerequisite but is recommended. Also listed for credit as History 122.
Mr. Burke

124 INTRODUCTION TO CLASSICAL MYTHOLOGY
This course is a study of ancient Near Eastern, Greek, and Roman literary texts (along with some modern ones), which are particularly useful for gaining an understanding of the function of myth in Graeco-Roman antiquity as a vehicle for artistic communication and social commentary. The archaeological and anthropological background of the ancient world will be sketched in, and the religious and philosophical implications of myth will be discussed. The course will pay particular attention to the influence of ancient mythology on later European culture, especially literature and art. Various modern approaches to myth analysis will be touched upon: structural, psychoanalytical, and literary. Many of the lectures will be illustrated by slides.
Mr. Burke

145 THE ANCIENT NOVEL
A survey of ancient fiction, including Ovid's *Metamorphoses,* Apuleius' *Golden Ass,* Petronius' *Satyricon.* The course will concentrate on character portrayal, the authors' relationship to their audiences, and narrative technique in ancient prose writing. Also listed for credit as Comparative Literature 145.
Mr. Burke

150 NARRATIVE IN ANCIENT HISTORICAL WRITING
This is a survey of ancient modes of writing and interpreting history. By reading selected works of ancient authors in translation, students will examine the influence of myth, propaganda, and rhetorical stereotyping on the portrayal of characters and events in ancient biographical and historical writing. Topics considered will include: narrative and stylistic technique, rhetoric, character portrayal, propaganda and reliability, the manipulation of events for artistic purposes, the effect of the author's intent on his work, and the presence or intrusion of the author's personality. The course will require reading, in translation, selections from Herodotus' *History,* Thucydides' *History of the War between Athens and Sparta,* Plutarch's *Lives,* Josephus' *History of the Jewish War,* and Tacitus' *Annals and Histories.* Reference will also be made to Old and New Testament ideas of patterns and purpose in history and to poetic treatments of history by authors such as Homer and Virgil. Also listed for credit as History 150.
Mr. Burke

160 JEWS AND CHRISTIANS IN THE ANCIENT WORLD
This is a historical and cultural survey of the complex and tumultuous period between the foundation of the Roman Empire and the sixth century AD, when medieval culture was established in Europe. Two themes will dominate the course: (1) the struggle between pagan or classical modes of thought and Judaeo-Christian beliefs and values, and the assimilation of each in the other; (2) the tension within the Christian movement between spiritual and practical concerns as the new religion came to dominate Western culture. The interaction in this colorful and fascinating period of

Graeco-Roman, Jewish, and Christian cultures will be approached by reading ancient authors in translation, by studying appropriate secondary sources, and by examining representative samples of the visual arts of the period in lectures illustrated by slides. Other topics covered will include: the Jewish and Middle Eastern roots of Christianity, the position of Judaea as a subject state within the Roman Empire and its attempts at political autonomy, the diverse religions and philosophies current in the Mediterranean world, the establishment and significance of the idea of Rome in Western civilization.
Mr. Burke

Comparative Literature

PARTICIPATING FACULTY

Kenneth Hughes, Ph.D., Associate Professor of German, Program Director
Raymond E. Barbera, Ph.D., Professor of Romance Languages
Walter Schatzberg, Ph.D., Professor of German
Paul F. Burke Jr., Ph.D., Associate Professor of Classics
Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish
Hartmut Kaiser, Ph.D., Associate Professor of German
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French, Assistant Dean and Director of International Programs
J. Fannin King, M.A., Associate Professor of Romance Languages, Emeritus
Michael K. Spingler, Ph.D., Associate Professor of French
William Ferguson, Ph.D., Assistant Professor of Spanish
Leo Ortiz-Minique, M.A., Visiting Instructor of Spanish
Gale H. Nigrosh, M.A.T., Lecturer in French and Linguistics

UNDERGRADUATE PROGRAM

The Major in Comparative Literature

The major in comparative literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program that, in turn, reflects the broadest possible frame in which to pursue the study of literature.

Requirements

1) No fewer than five courses must be taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
2) Suggested sequence of core courses in comparative literature:
   (a) Ideally, the student should have taken Problems in Comparative Literature (CMLT 110) or a similar introductory comparative literature course by the end of the sophomore year.
   (b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (CMLT 230), Studies in Narrative Form (CMLT 240), or English Poetry (English 13). Again, in certain cases, the sequence of courses might

be altered according to the particular direction of studies determined by the student and the adviser.

(c) While a student may wish to devote the senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar in Literary Criticism (CMLT 251).

3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with his/her faculty adviser.

UNDERGRADUATE/GRADUATE PROGRAM

The three-year B.A./M.A. Program in Comparative Literature is available to students who have completed the sophomore year, who have a good background in at least one foreign language (French, German, or Spanish), and who have a demonstrated interest in literature and literary criticism.

In order to achieve the general objective of the program—becoming *the highly critical student of literature*—and to permit a common ground for discussions in the Colloquium on Literary Problems, the following sequencing of required core courses is suggested when possible. Exceptions will be made where special situations prevent this sequencing.

1) Studies in Narrative Form	(1 unit)
2) Elements of Drama	(1 unit)
3) Seminar in Literary Criticism	(1 unit)

Reading lists will be made available to all students upon their acceptance into the program. These lists will assure that students are exposed to the same sources and methodologies and will make available a common vocabulary to enable participation in the discussions that form a regular and indispensable part of the process of critical awareness and investigation. The three core courses are integrated and designed to offer to students an exposure to critical ideas that will enable them to meet on common ground to consider actively the validity of ideas and methods. The three-year program beginning with the junior year is, in effect, an investigation of the nature of criticism as it applies to literary works. Fluency in that area, therefore, is the goal.

The Colloquium on Literary Problems

An indispensable part of the program is the colloquium. It is a forum where students and faculty meet one evening every two weeks to discuss problems ranging from modifications and evaluation of the program itself to discussion of critical problems in literary works. The colloquium allows the students the opportunity to express their ideas and to test them in the presence of their peers. It is designed to allow a free discussion of ideas which, however, involves careful preparation. First-year students who have yet to take the core courses will find themselves among students who have completed their first and second years and also among those who are writing their theses. As a consequence, the colloquium, besides soliciting discussion, serves as a learning-teaching experience with students progressing from the learning to the teaching stage.

Required Courses in Addition to Core Courses

It is basic to the philosophy of the program that each candidate become fluent in at least one foreign language. To this end, each candidate is to take six courses either in a foreign literature (German, French, or Spanish) in the original language or, where students have a command of more than one foreign language, in a combination of the two if desired. Such expertise precludes the parochialism of the monolinguist. It is indeed an anomaly that a comparatist should function on the basis of his/her native language alone. Students with a good language background are encouraged to learn more than one foreign language. A number of students currently enrolled in the program find themselves in this category.

Teaching Internship

Some teaching experience is a requirement for the M.A. degree. A teaching internship will be available for qualified students in the final year. Interns will serve as instructors and discussion leaders in foreign language, foreign literature, and comparative literature courses and will be involved in the course in its entirety. The internship may also involve participating in the direction and production of a foreign language play.

The M.A. Thesis

The thesis is the culmination of the student's work in her/his critical and comparative studies of literature and related areas throughout the junior and senior years. Before the end of the senior year the student will present a thesis proposal to an advisory committee and to the colloquium for discussion and development. Ideally, an integrated program of studies from the beginning of the junior year will lead naturally to the selection and execution of a thesis topic during the final year by a student who will have developed his/her own area of interests and who will have acquired both sensitivity and critical awareness in the analysis of literary texts and problems.

Financial Aid

Some partial- and full-tuition remission scholarships will be available in the student's final year in the program. Several teaching assistantships will also be available to students involved in the teaching internship in their final year. All awards will be based upon need and merit.

COURSES

110 PROBLEMS IN COMPARATIVE LITERATURE

This is an introductory course in comparative studies of literature from a problem-oriented perspective. The course will revolve around five major issues:

1) The Tragic View
2) The Challenge of Faith
3) Man the Measure
4) The Search for Identity
5) The Esthetics of Ambiguity

Readings will include selections from Sophocles, Job, Pico, Pascal, Pope, Nietzsche, Mann, Hofmannsthal, Rilke, Hesse, Kafka, Joyce, Bernanos, Beckett, and Cortazar. Recommended for freshmen and sophomores.
Mr. Schatzberg

118 MASTERPIECES OF WORLD LITERATURE

This is a comparative survey of the development of European literature. Works to be studied, in English translation, have been chosen to illustrate the most important stages in the evolution of the Western understanding of the human condition. Reading during the fall semester will include

Homer's *Odyssey,* Virgil's *Aeneid,* Dante's *Divine Comedy,* and Montaigne's *Essays.*
Mr. Burke, Mr. King

119 MASTERPIECES OF WORLD LITERATURE

This course is a comparative survey of the development of European literature. Works to be studied, in English translation, have been chosen to illustrate the most important stages in the evolution of the Western understanding of the human condition. Reading during the spring semester will include Cervantes' *Don Quixote,* Shakespeare's *The Tempest,* Goethe's *Faust,* Ibsen's *The Masterbuilder,* Kafka's *The Trial,* and Beckett's *Endgame.*
Mr. Schatzberg

120 THE EPIC JOURNEY

The course is a close comparative examination of the epic as a recurring literary form with special attention to the various forms and functions of the hero's *journey.* Epic journeys may or may not have goals which are clear to the hero; they may be wanderings in unknown parts of the physical world, or they may be representative of various types of spiritual striving and trial. Our task will be to define and articulate the various types of epic voyages and to relate their differences and similarities to the values of the societies that gave rise to them. Readings will consist mainly of primary literary texts with supplementary assignments in appropriate modern critical works; included in the reading will be selections (in English translation) from: Homer's *Odyssey,* Virgil's *Aeneid,* Petronius' *Satyricon* as an example of mock epic, Apuleius' *Golden Ass,* and Dante's *Divine Comedy.*
Mr. Burke

145 THE ANCIENT NOVEL

Refer to course description under Classics 145.
Mr. Burke

170 IN-FORM-ATION: MEANING THROUGH STRUCTURE IN MUSIC, LITERATURE, THEATER, AND EVERYDAY TALK

This course explores the ways in which form creates meaning. A set of common concepts is used to look at qualities of structure in a variety of creative experiences. Our goal is to develop in the student the ability to recognize the significance of forms, whether they occur in art or in everyday life. The course assumes that some of the most meaningful insights into a particular subject may be gained by bringing to bear upon it the critical methods of other areas of knowledge. The course is also listed for credit as Music 170 and Philosophy 149.
Mr. Spingler, Mr. Fuller

175 LITERATURE AND EXISTENTIALISM

The course is an introduction to major writers and themes of existentialism from Dostoyevsky, Kierkegaard, and Nietzsche to Sartre, Camus, and Beckett. Beginning with a study of the cultural origins of existentialism as a distinctively modern, European sensibility, we will explore why and how existentialist thought has found expression with unique appropriateness as both philosophical literature and literary philosophy. Prerequisite: permission of the instructor.
Ms. Kaufmann-McCall

182 ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS

This is a study of Romanticism in philosophy, literature, music, and the visual arts. Romanticism is seen as a rebellion against traditional values in art and life placing the individual at the threshold of modernity. Expressions of the themes of alienation and personal transformation are studied in novels and novellas, poetry, philosophical literary works, program music, painting, and film. The course is listed for credit as Comparative Literature 182, English 182, Music 182, and Philosophy 182.
Mr. Blinderman, Mr. Castonguay
Mr. Overvold, Mr. Schatzberg

192 LANGUAGE IN SOCIAL CONTEXT

This is a look at language from the perspective of sociolinguistics. The course will view spoken discourse as situated action, whose meaning both reflects and creates the social context in which it takes place, whether in the everyday world or the world of the literary text. Starting with the notion of speech communities, the class will consider how verbal performance varies as individuals and groups assume different roles in different situations. Topics will include ritualized speech events, linguistic subcultures, male-female language, code-switching, bilingualism, and functions of language in the classroom. Discussion and reading will be supplemented by several short observational tasks. The class is limited to 20 students. Also listed for credit as Education 192 and Linguistics 192.
Ms. Nigrosh

197 THE FAUST THEME IN LITERATURE AND MUSIC

Refer to course description under German 197.
Mr. Kaiser

210 THE LITERARY HERO

As early as 1499, in European literature, a harlot becomes the heroine of a major work. The intrusion of characters of less than heroic stature is an innovation that merits some study. Beginning with the *Celestina*, and followed by a number of works including *Lazarillo de Tormes* and *Moll Flanders*, an attempt will be made to trace the increasing importance of characters of "piccola nazione" in the literary work. Heroic qualities yield to their opposite. The questions and problems that arise as a result of such a displacement will be the subject of analysis and commentary.
Mr. Barbera

215 MARXISM AND ART

The course considers two sides of the relationship of Marxism to art: (1) how, as a philosophical foundation of political entities, Marxism affects the kinds of art produced under its sponsorship; and (2) the kinds of critical theories and strategies which, as an analytical tool, Marxism generates. The course presents a broad survey of Marxist considerations of art and literature. Among the topics discussed are: the alternation of cultural repression and "thaw," the historical development of art theory from Marx to the present, Stalinism and the distortion of the human image in Marx, the theory and practice of socialist realism, the critique of modernism and formalism, and the alienation of the artist in contemporary capitalist and socialist society. A basic acquaintance with both the classics of Marxist thought and the fundamentals of literary and art criticism is presupposed.
Mr. Hughes

220 FRENCH AND AMERICAN FEMINISM: A CROSS-CULTURAL STUDY

The seminar will be an exploration of social, linguistic, and philosophical differences in French and American feminist writing from a cross-cultural perspective. Both fictional and theoretical texts will be studied. The course is intended as a workshop for upperclass and graduate students. Each student will be expected to develop a research project in her or his particular area of interest. Readings will include Colette, *The Vagabond;* Simone de Beauvoir, *A Very Easy Death* and *The Second Sex;* Elaine Marks, ed., *Contemporary French Feminism;* Monique Wittig, *Les Guérillères;* Charlotte Perkins Gilman, *The Yellow Wallpaper;* Kate Chopin, *The Awakening;* Shulamith Firestone, *The Dialectic of Sex;* Dorothy Dinnerstein, *The Mermaid and the Minotaur;* Adrienne Rich, *Of Woman Born* and selected poems. (See also Women's Studies.)
Ms. Kaufmann-McCall

230 ELEMENTS OF DRAMA

The course explores ways of approaching the dramatic text based on the conditions and problems peculiar to the stage. Through the study of representative plays from major dramatic periods, the course will investigate the nature of such concepts of dramatic analyses as plot, character, dialogue, and enactment as well as such elements of dramatic aesthetics as tempo, mode, image, and sequence of impressions. The particular nature of the points of view of playwright, director, actor, and spectator will be investigated.
Mr. Spingler

237 LANGUAGE IN THEATER

This course examines the nature of theatrical communication, the problem of theatrical signs, relationship between text and gesture, differences and affinities between everyday talk and dramatic dialogue. Analysis and scene work concentrates on three plays: Sartre's *No Exit,* Racine's *Phedre,* and Beckett's *Play.* Theatrical readings include Artaud's *Theater and its Double* and Grotowski's *Towards a Poor Theater.* Some work will be done with labanotation.
Mr. Spingler

240 STUDIES IN NARRATIVE FORM

An exploration of narrative both structurally and historically with an emphasis on literary fiction as a particular kind of narrative form. We will follow the evolution of narrative in Western literature through the ideologies of realism and modernism, as they have been elaborated in fiction and in critical theory. The relevance of nonliterary narrative to the understanding of fiction will also be discussed. Texts will include: Auerbach, Lukács, Sontag, Kermode, and Barthes; Tolstoy, short stories; Flaubert, *Madame Bovary;* Conrad, *Heart of Darkness;* Fitzgerald, *The Great Gatsby;* Sartre, *Nausea;* Nabokov, *Lolita;* Wittig, *Les Guérillères.* Prerequisite: permission of the instructor.
Ms. Kaufmann-McCall

251 SEMINAR IN LITERARY CRITICISM

This course seeks to develop critical sensibilities by concentrating on three major modes of literary criticism: textual, psychoanalytic, and Marxist. An effort is made to define the usefulness and limitations of each mode. We

read and discuss both original sources (Freud, Marx, etc.) and a wide range of criticism based on their methods. An attempt is made to demonstrate that a complete critical engagement with a literary work must start from a close examination of the text itself, proceed to a consideration of the interaction between text and the author's life and mind, and from there, to an investigation of the social setting that conditions text, life, and mind. The course is therefore structured in three "levels" dealing with text, psychobiography, and society. Students write one seminar paper, but do so in three stages; this affords an opportunity both to rewrite prior stages and constantly to incorporate new material. In order to unify discussion and development, the seminar centers around a thorough critical occupation with the works, life, and society of Franz Kafka. Primary material includes his short stories, his novel *The Trial, Letter to His Father,* and *Letters to Milena.*
Mr. Hughes

256 COLLOQUIUM ON PROBLEMS

This is an ongoing colloquium designed to consider the formulation and resolution of problems in comparative literature. It is open to and required of students accepted into the Comparative Literature Program.
Staff

272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This study is conducted primarily as a senior seminar in which comparative literature, geography, and philosophy provide integrated perspectives on the city. American and European models of classical and contemporary cities are used to analyze the historical, geographic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City. The course is also listed for credit as Geography 272, Philosophy 272, and Spanish 272.
Mr. Anderson, Mr. Bowden, Mr. D'Lugo

Computer Science

DEPARTMENT FACULTY

Alan E. Larson, Director of Computer Services
Joseph E. Tomkowitz, Systems/Applications Programmer

The courses in the area of computer science listed below are available to Clark students. They involve the use of the P.D.P. 11/70 Computer System located on campus. An undergraduate major in computer science is now under development. For a more complete description, see the Mathematics Department listing.

COURSES

101 INTRODUCTION TO COMPUTER PROGRAMMING—BASIC

This is an introductory programming course designed for students with no mathematics beyond high school algebra. The emphasis of the course will be on using the computer and the BASIC programming language as a tool for solving problems in any discipline. Students develop a working

knowledge of character representation and manipulation, number representation and arithmetic, subroutines and functions, arrays and indexing, and most of all, structured programming techniques and algorithms that make programming easier. (Formerly a course in Fortran IV.)
Staff

102 COMPUTER APPLICATIONS

Advanced topics in computer use are covered including searching and sorting, file design, recursion, lists, stacks, and queues. Several projects requiring programming skill are assigned. Prerequisite: Computer Science 101 or permission of instructor.
Staff

103 INTRODUCTION TO COBOL PROGRAMMING

The concepts of Cobol, today's most widely used programming language for business applications, are introduced. The student is expected to complete a number of programming assignments during the course. Prerequisite: Computer Science 101 or permission of instructor.
Mr. Larson

140 ASSEMBLER LANGUAGE PROGRAMMING

This course is designed to enable the student to write substantive programs in assembler language for the P.D.P. 11/70. While a knowledge of a higher level language is not necessary, some familiarity with computer operations would be helpful. Otherwise, permission of instructor required.
Staff

145 COMPUTER ORGANIZATION

A study of computer organization, operating systems, and logic design, this course is intended for students with a strong interest in computers and computing systems. Topics include the structure and organization of the major components of computers, and the mechanics of information transfer and control within the system. The functional, logical level is emphasized rather than the circuit details of hardware. Prerequisite: Computer Science 102.
Staff

150 INTRODUCTION TO FILE PROCESSING

Intended for the computer science student interested in the use of computers in complex non-numeric applications, this course introduces data structuring techniques and surveys the basic management information systems. Emphasis is given to attributes and utilization of sequential access and random access media and to file and index organization. The hierarchical and network approaches to data bases are discussed. The background required is a thorough understanding of higher level programming. Prerequisite: Computer Science 102.
Mr. Joyce

155 OPERATING SYSTEMS

This advanced course studies operating systems, their dependence on computer architecture, and their interaction with user programs. Student projects implement sections of operating systems. Prerequisite: Computer Science 140 and 145.
Staff

160 DATA STRUCTURES AND ALGORITHM ANALYSIS

A detailed study of data structures and algorithms, this course builds on the foundation established in Computer Science 150. In particular, the algorithms required to support a data base management system are developed. The student learns to analyze data structures and algorithms for their efficiency. A project is assigned to develop a simple data base management system incorporating data structures, search/sort/merge methods, and memory management. Prerequisite: Computer Science 150.
Mr. Joyce

170 COMPARATIVE ANALYSIS OF PROGRAMMING LANGUAGES

A number of programming languages are studied from a user point of view. Programming exercises in each language are assigned in a wide variety of applications. These exercises illustrate the run time characteristics of the language and its special features such as list or string processing, and amenability to structured programming techniques. Prerequisite: Computer Science 102.
Staff

201 ADVANCED COMPUTER PROGRAMMING

This course is designed for students with previous programming experience. Each student is expected to select and carry to completion a project requiring substantive computer analysis in machine language, assembler, or any higher level language. Offered for variable credit.
Staff

220 DATABASE MANAGEMENT AND SYSTEMS DESIGN

An advanced course on the realities of database technology emphasizing the goals of database management: performance, data integrity, future compatibility, and versatility. The concept of data models is examined and specific databases discussed. The student will design and implement a database management system that includes file security and query facilities. Prerequisite: Computer Science 160.
Staff

250 SOFTWARE DESIGN AND DEVELOPMENT

Students work in teams to organize, develop, and manage a major project in software design starting with a problem—more or less vaguely defined—and proceeding to a concrete solution. The course provides a means for applying techniques learned in earlier classes and for obtaining experience in system analysis. Prerequisite: Computer Science 160.
Staff

MATHEMATICS 117 FORTRAN FOR SCIENCE STUDENTS

Refer to course description under Mathematics. Offered as a half course, first half of semester.
Mr. Stubbe

MATHEMATICS 118 ELEMENTARY NUMERICAL ANALYSIS

Refer to course description under Mathematics. Offered as a half course, second half of semester.
Mr. Stubbe

MATHEMATICS 119 LINEAR PROGRAMMING
Refer to course description under Mathematics.
Mr. Cline, Mr. Kennison

Economics

DEPARTMENT FACULTY

Roger C. Van Tassel, Ph.D., Professor of Economics, Department Chair
Howard W. Nicholson, Ph.D., Professor of Economics
Attiat F. Ott, Ph.D., Professor of Economics
E. C. H. Veendorp, Ph.D., Professor of Economics
George E. Hargest, M.B.A., Associate Professor of Economics, Emeritus
Robert C. Hsu, Ph.D., Associate Professor of Economics
Frank W. Puffer, Ph.D., Associate Professor of Economics
Maurice D. Weinrobe, Ph.D., Associate Professor of Economics
Don M. Shakow, Ph.D., Assistant Professor of Economics
Frederick J. Tannery, Ph.D., Assistant Professor of Economics

UNDERGRADUATE PROGRAM

The undergraduate program is designed to give the student a comprehensive grasp of the underlying principles and functions of economic institutions and to develop habits of systematic thought.

Goals of the Major

The rationale for economics majors can be stated briefly and simply. We believe economics offers a useful insight into a better understanding of fundamental human behavior in the decision-making process and a great variety of national economic issues. While we recognize that economics alone seldom gives answers, we also feel that there are few issues, at least in the social sciences, in which the contribution of fairly formal economic analysis does not play a necessary role. There are obviously some advantages in an economics major besides a more broadly accepted educational value. It is a good preparation for law, business, and a number of other professional and not so professional careers. However, the emphasis of our program (and its rationale) is the educational one. The major in economics is clearly devised to help the student think and develop. The student takes a sequence of courses that should develop an appreciation of both the strengths and limitations of the subject. Finally, a student "who gets it all" in his first course has really accomplished much of this objective. For almost everyone, however, some repetition, reinvolvement, and greater experience in additional and more advanced courses is required to develop the necessary mixture of confidence and competence.

Economics 10, Issues and Perspectives, is prerequisite for all "100"-level courses and for Econ 11, Principles of Economics. Econ 11 is prerequisite for "200"-level courses in the department. All majors in economics must take Econ 10, 11, and Econ 205.1, and 205.2, Intermediate Theory. Econ 160, Statistics, is strongly recommended for all majors and required for some tracks. Students in their last three years must take no less than 50 percent or more than 80 percent of their work in economics and courses appropriate to their track. In addition, all majors are required to have a department advisor to assist in developing a program of study. Within the tracks, students may elect a variety of options. These options are built on a common core of analysis required of all majors and extend to include a coherent program of courses offered within the department and in related departments. The options are: economics professional, business, prelaw, and the expanded major. Students should refer to the *Undergraduate Economics Handbook* for further information regarding requirements.

The department offers two separate honors programs. Selected students may engage in independent study off campus for a semester and summer, preferably during the junior year. These students work for business firms or government agencies in applied economic research. A semester's credit is awarded. In addition there is an on-campus program. Juniors in their second semester take an honors course and, as seniors, may continue and complete the honors program with the writing of a senior thesis.

Some courses may be offered only in alternate years. Detailed course descriptions are available at the department office and at the Registrar's Office.

GRADUATE PROGRAM

The University offers facilities for graduate study and research leading to the doctor of philosophy in economics.

Graduate students may elect to take a limited amount of work in related courses offered by other departments.

Scholarships and fellowships are available for a limited number of well-prepared students. These appointments exempt their holders from tuition fees and some carry stipends in varying amounts. Several teaching assistantships are also awarded which enable graduate students to gain experience in undergraduate instruction. These carry remission of tuition and a cash payment, up to $3,700 for part-time work (one-half-time).

Two full academic years of graduate work, or its equivalent in part-time work, is necessary for admission to Ph.D. candidacy. One of these years must be spent in residence at Clark University. "In residence" is broadly defined as work done at Clark University under the immediate, personal supervision of at least one member of the University faculty.

All candidates for the Ph.D. in economics are required to demonstrate proficiency in econometrics and mathematical economics, i.e., by passing designated courses offered in the department or, in the case of prior preparation, by passing a test given by the department.

Each student in the Ph.D. program is required to demonstrate proficiency in economic theory. The economic theory requirement includes micro-theory, macro-theory, and the history of doctrine. Use of mathematics may be required in the examination in economic theory. The student satisfies the economic theory requirement by passing course examinations.

Upon completion of economics theory and the required special fields, the student is admitted to candidacy for the Ph.D. These fields may be selected from among the following: monetary economics, public finance, industrial organization, international trade, comparative economic systems, econometrics, advanced theory, regional economics, or one field selected from related subjects. If econometrics or advanced theory is selected as a special field, the level of performance required is substantially higher than the general requirement in econometrics and economic theory for all Ph.D. candidates. The choice of fields must be cleared in advance with the graduate student adviser. Not all graduate field courses are offered each year. At least two field courses are offered annually. Typically, two fields are taken during the second year, and the remaining field requirements are completed, along with beginning the dissertation, during the third year.

Soon after having completed the field requirements, each student is expected to develop a written prospectus of his/her dissertation and then to make a presentation before an informal conference with the dissertation committee demonstrating *both* the extent of knowledge of his/her dissertation field and the feasibility of the proposed topic.

Upon completion of the dissertation in a form acceptable to the committee, the candidate will make a copy of the dissertation available to the department, the staff, and graduate students in the department. After a period of approximately two weeks, to permit a wider reading of the dissertation within the department, the candidate will present the dissertation at a seminar open to all staff and graduate students in the department. Final approval of the dissertation will be granted by the committee after consideration of any suggestions of changes or challenges arising from the final seminar. Unless the dissertation is completed and defended within five calendar years from admission to candidacy, the certifying examinations must be repassed.

The dissertation must be a real contribution to knowledge, based upon independent research, convincingly presented, and acceptably written. Published articles may be accepted by the department instead of a dissertation.

Some teaching experience at Clark, or such other teaching as the department may regard as equivalent, is prerequisite to the doctor's degree.

Students enrolled in the Ph.D. program may be awarded the M.A. degree upon satisfactory completion of the required Ph.D. "special fields"; or, in the case of students who do not continue toward the Ph.D., upon satisfactory completion of an approved program of course work, the writing of an M.A. thesis, and an oral examination.

A student should discuss her/his plans with the graduate student adviser on or before registration day and secure approval of his/her course program.

INSTITUTE FOR ECONOMIC STUDIES

The Institute for Economic Studies, funded with an initial grant from the John M. Olin Foundation, began its operation in January 1980. The institute's main objectives are to:

1. research significant national and regional economic issues and propose policy options to deal with these issues;
2. disseminate the results of the research—particularly its policy recommendations—to a broad audience.

In addition, the institute provides a framework within which new curricula and teaching methods may be developed. During the last academic year, seminars were designed to stimulate the exchange of ideas between members of the institute and noneconomist practitioners, such as chief executive officers and media personnel as well as professionals from other disciplines. The institute's directors plan to establish a Scholars in Residence Program, which will bring distinguished economists and business leaders to Clark.

Professor Van Tassel is director of the Institute for Economic Studies; Professor Ott is director of policy studies.

COURSES

10 ISSUES AND PERSPECTIVES

By analysis of important current policy issues, the student is introduced to

the vital contribution economics can make to systematic thought and understanding. Rather than emphasizing economic theory, the course begins with issues in the social sciences that are of obvious and important concern. From a study of issues, the course proceeds to show how development and use of some very basic economic concepts can aid materially in the analysis. Open to freshmen. Multiple sections.
Staff

11 PRINCIPLES OF ECONOMICS

This is an introduction to economic analysis. This course develops a basic set of economic concepts utilized in the "200"-level courses offered in the department. Basic elements of price and income theory are emphasized. Policy questions are treated both to reinforce concepts and to illustrate applicability of the analysis. Open to freshmen. Prerequisite: Economics 10.
Staff

88 DIRECTED READINGS

Offered for variable credit.
Staff

89 SPECIAL PROJECTS

Offered for variable credit.
Staff

108 INTERNATIONAL FINANCIAL DEVELOPMENTS

This course traces the development, roles, importance, and problems in international finance. A multinational world requires an efficient international financial system. Yet, design of a system that permits orderly international trade and retains national identity and autonomy in vital areas of policy is a difficult and incomplete task.
Mr. Van Tassel

109 SOCIALIST THOUGHT

This is an exposition of socialist economic theory as a coherent body of knowledge uniquely suited to the analysis of major socioeconomic issues.
Mr. Shakow

113 MONETARY ECONOMICS: THEORY AND POLICY

The theory of money and its role in the modern economy are examined as are determinants of the supply of money and analysis of the role of monetary policy in stabilization policy. Commercial banks and non-bank financial intermediaries are studied.
Mr. Weinrobe

121 INTRODUCTION TO ACCOUNTING PRINCIPLES

This is a first course in financial accounting designed to meet academic needs of: (a) students who will take only one course in accounting to obtain a good understanding of financial information such as that which appears in standard financial reports, (b) students who will be interested in work in managerial accounting as well as financial accounting, (c) students who will continue the study of accounting in intermediate and advanced courses. This course may be considered the equivalent of Management 201, Introduction to Accounting; a student cannot receive credit for both courses.
Mr. Nicholson

122 CORPORATE FINANCE AND INVESTMENT PRINCIPLES

This course is an introduction to principles of business finance and investment. The course begins with an analysis of the finance function in business and concludes with a study of investment principles viewed from the standpoint of both the firm and the investing public. Topics covered in connection with the finance function include factors affecting need for funds and sources of funds. Study of investment principles focuses on appraisal of capital investment opportunities and the nature and functioning of capital markets, such as the organized exchanges for stocks and bonds. This course may be considered the equivalent of Management 240; a student cannot receive credit for both courses. Prerequisite: Economics 121 or permission of the instructor. Students not eligible prior to junior year.
Mr. Nicholson

123.4 SPECIAL PROBLEMS: ENVIRONMENT AND ENERGY

This is an analysis of major problems that have arisen as a result of environmental concerns and the energy shortage. Analysis will be placed on problems stemming from external diseconomies, supply demand disequalibria, and technological change.
Mr. Shakow

123.5 CONTEMPORARY POLITICAL ECONOMIC PROBLEMS: OPINION AND ANALYSIS

The course will examine the basis of intergroup differences in attitudes on questions of economic policy, emphasizing the function of values, perception of fact, and analytical abilities. Also listed for credit as Education 223.
Mr. Van Tassel

124 ECONOMIC THOUGHT AND MODERN CIVILIZATION

This course is broadly interdisciplinary. It emphasizes the relationship between economics and related areas, such as philosophy, ethics, political science, sociology, mathematics, and statistics. Beginning from the perspective of economic thought, the course traces developments in economic analysis, showing how economic analysis has affected and been affected by the contact with other disciplines. The course considers how modern economic thought has come to diverge in essential aspects from the ideas of social philosophers like Adam Smith and Karl Marx and emphasizes what scientific economic analysis does and does not enable us to understand about modern social problems and issues.
Mr. Nicholson

126 PUBLIC POLICY TOWARD BUSINESS

This course examines the various types of industrial organization, the degrees of monopoly in competition, and the development of public policies that affect business. Among issues traced will be the development of anti-monopoly regulation, consumer protection, and public utilities. Business performance and government regulation will be related to criteria from economic theory.
Mr. Veendorp

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT

This course will be a review of political economic problems associated with

such natural resources as agricultural land, energy goods, and minerals—as well as a resource common to all of us, our natural environment. Typical issues to be analyzed include the assessment of environmental impacts within a market oriented economy, the potential role of international cartels in resource allocation, and the assessment of nuclear generation from an economic standpoint. Also listed for credit as Science, Technology and Society 155.
Mr. Shakow

160 INTRODUCTION TO STATISTICAL ANALYSIS

This course examines basic concepts and techniques of statistical method in economic analysis: descriptive statistics, permutation and combination, an introduction to probability theory, sampling distribution, standardized normal distribution and other related distributions, simple and multiple regression, simple forecasting and statistical decision-making.
Mr. Puffer

176 COMPARATIVE ECONOMIC SYSTEMS

Many different political and economic systems exist in the world. Most systems are continually undergoing changes that gradually, but importantly, affect their performance. This course surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Mixed economies, market socialist economies, and centrally planned economies are examined.
Mr. Hsu

177 CHINESE POLITICAL ECONOMY

This course is a comprehensive survey of the Chinese economy—its development, institutions, and policies. The major topics to be covered are: (1) economic heritage; (2) Maoist and post-Mao economic development: ideologies and strategies; (3) rural and agricultural development; (4) industrial development; (5) planning and resource allocation; (6) human resources: population, health care, education; (7) international economic relations.
Mr. Hsu

196 ECONOMICS AND AMERICAN SPORT

Refer to course description under Geography 196, Culture and American Sport, and Psychology 196, the Psychology of American Sport.
Mr. Puffer

205.1 MICROECONOMIC THEORY

The objective of the course is to describe and analyze how a market-oriented economy functions in answering the five basic economic questions. These are: (a) What commodities to produce? (b) How much of each to produce? (c) What productive techniques to use and how to provide incentive? (d) How to distribute the output among the various members of society? (e) What provision to make for the future? Interspersed with the theory, the course contains frequent examples that demonstrate the use of microeconomics in solving problems faced by the decision-making unit in both the private and public sectors.
Staff

205.2 MACROECONOMIC THEORY

This course focuses on the forces that affect the overall performance of the economy. It is a study of the determinants of economic activity (such as consumption, investment, government purchases, and exports); measures of economic performance (such as the level and rate of growth of national income and product, the level of employment and unemployment, the general price level, and the nation's balance of international payments). In addition, the course deals with specific, current economic problems facing the U.S., discusses public policies instituted to deal with them—their success or failure—and the repercussions of some of these policies on world economies.
Mr. Puffer

207 INTERNATIONAL ECONOMICS

This course applies and develops concepts of economic theory to such questions as: determinants of international and regional specialization and trade, the theory of tariff intervention, the balance of payments, adjustment forces and disequilibria, and application of theory to important issues of international trade.
Mr. Van Tassel

209 MARXIST ECONOMIC THEORY

This is an introduction to Marxist economic theory. A comparison will be made between the development of Marxist and neoclassical economic analysis. Prerequisite: Economics 11 and permission of instructor.
Mr. Shakow

215 PUBLIC EXPENDITURES

This course examines issues and priorities related to the size and composition of public expenditures. Evaluation of the federal budget expenditures according to criteria of cost-benefit analysis and cost effectiveness. Property rights, third party effects, and how public policy deals with them are also examined.
Ms. Ott

216 TAX SYSTEMS AND POLICIES

This course outlines federal taxes and tax policies in the United States. It explains emerging issues in federal taxation—tax equity, the effect on income distribution, the relative tax burden of the rich and the poor and tax reforms—and discusses alternative solutions. Taxes as a tool for economic stabilization and growth are also analyzed. Prerequisite: Economics 11 or permission of instructor.
Ms. Ott

222 LABOR AND MANPOWER

This course covers a wide variety of topics in labor economics including the demand and supply of labor, theories of unemployment, human capital, and labor unions. The emphasis is on labor market analysis or how various factors influence labor income and employment. Current empirical work is presented for students' comments and criticism.
Staff

224 HISTORY OF ECONOMIC DOCTRINE

Economic thought profoundly influences modern society even when it is

not well understood. Policy-makers are affected by economic thought in ways that are not always fortuitous. The great English economist, Lord Keynes, has written, "Madmen in authority who hear voices in the air are distilling their frenzy from some academic scribbler of a few years back." This course is a survey of developments in economic thought. It traces the sense in which economics has evolved as a science—a method of thinking clearly about complex and important social problems. Attention is also paid to the influence of economic thought on noneconomists—on policy-makers and general citizens.
Mr. Nicholson

228 ECONOMIC DEVELOPMENT

This course will examine the major theories of economic development, the major problems confronting the less developed countries, and the policies and strategies appropriate for economic development. The purposes are to show the relevance of economics in international development, to promote an understanding of the problems of the less developed countries, and to help provide analytical skills useful to students interested in a career in international development.
Mr. Hsu

231 ELECTRICITY PLANNING AND REGULATION

Refer to course description under Science, Technology and Society 231.
Mr. Shakow, Mr. Ducsik

235 ECONOMICS OF HOUSING

An examination of the nature of housing, including an investigation of supply and demand in the housing market, the relationship between housing and the aggregate economy, the role of housing finance, and the role of the government in the housing market. Prerequisites: Economics 11, Economics 113.
Mr. Weinrobe

250 ECONOMICS OF EDUCATION

This course is an economic analysis of the education industry. Among topics examined are: rate of return on educational investment, composition of supply and demand, problems in manpower planning, organization, and the varied roles and rationales for government intervention in education. Prerequisite: Economics 11. Also listed for credit as Education 241.
Mr. Van Tassel

255 PERSONAL INCOME DISTRIBUTION: THEORIES AND POLICIES

This course will survey theories of income distribution and inequality in the U.S. The course will also discuss policy issues dealing with income redistribution. Prerequisite: Economics 11; Economics 160, Statistical Analysis is most helpful.
Ms. Ott

260 INTRODUCTION TO MATHEMATICAL STATISTICS

This is an introduction to the theory of statistics from the managerial point of view. Economics 271 should be taken concurrently.
Mr. Shakow

265 BASIC ECONOMETRIC THEORY

This course is an introduction to econometric methods, statistical inferences and testing hypotheses, model-building technique and theoretical justification of the model, and the estimation method used. Various estimation methods will be presented and evaluated in terms of their performance and validity in economic empirical studies.
Mr. Shakow, Mr. Puffer

266 APPLIED STATISTICS AND ECONOMETRICS

This course studies integration of statistical concepts with the estimation and forecasting of economic variables: estimation of production function, cost analysis, quality analysis, linear programming, input-output method, estimation of aggregate supply and demand function, model for national economy. Prerequisite: Economics 265.
Mr. Shakow, Mr. Puffer

269 ECONOMIC HISTORY

This course provides an introduction to the economic history of the developed capitalist countries.
Mr. Shakow

271 INTRODUCTION TO MATHEMATICAL ECONOMICS

An introductory survey of the use of mathematical methods in economic analysis. Special attention is given to the mathematical framework of the theory of price determination. Prerequisite: permission of instructor. Offered for variable credit.
Mr. Veendorp

277 REGIONAL ECONOMICS

This course examines theoretical and practical aspects of economic development, cyclical changes and trade between regions of the United States. Location theory, growth trends, wage and income differentials, structural unemployment, and inequalities in income distribution are considered. Interregional input-output tables are emphasized. Prerequisite: Economics 11.
Mr. Puffer

280 JUNIOR HONORS

Designed to assist honors candidates in integration of the field. Offered as a full course.
Staff

281 SENIOR HONORS

Offered for variable credit.
Staff

282 HONORS

Eligible students selected by the department may work off campus for a summer and a semester as junior professional economists in business, government, or industry and receive academic credit. Offered for variable credit.
Staff

299.9 INTERNSHIP
Students spend a semester working full or part time outside the University as part of their academic experience. To qualify, the internship experience must significantly involve an extension, embodiment, or illustration of previous or concurrent systematic academic work in Economics. Offered for variable credit.
Staff

301.1 MICROECONOMICS
Mr. Veendorp

301.2 MICROECONOMICS
Ms. Ott

302.1 MACROECONOMICS
Ms. Ott

302.2 MACROECONOMICS
Mr. Puffer

313 SEMINAR IN MONETARY ECONOMICS
Mr. Weinrobe

325 PUBLIC FINANCE SEMINAR
Ms. Ott

326 INDUSTRIAL ORGANIZATION SEMINAR
Mr. Veendorp

327 INTERNATIONAL TRADE SEMINAR
Mr. Van Tassel, Mr. Hsu

328 ECONOMIC DEVELOPMENT
Mr. Hsu, Mr. Puffer

377 REGIONAL ECONOMICS SEMINAR
Mr. Puffer

390 DISSERTATION SEMINAR
Mr. Shakow

Education

DEPARTMENT FACULTY

Helen J. Kenney, Ed.D., Professor of Education, Department Chair
David S. Zern, Ph.D., Associate Professor of Education, Adjunct in Psychology
William C. Kvaraceus, Ed.D., Professor of Education (Affiliate)
Gaston Schaber, Ph.D., Director, Pedagogique Institut, Luxembourg, Professor of Comparative Education (Affiliate)

With the cooperation of:
Roger C. Van Tassel, Ph.D., of the Department of Economics
James Macris, Ph.D., of the Department of English and Linguistics and Language Learning
Walter Schatzberg, Ph.D., and Gale Nigrosh, M.A.T., of the Department of Foreign Languages and Literatures
Duane S. Knos, Ph.D., of the Graduate School of Geography
Theodore H. Von Laue, Ph.D. and Richard B. Ford, Ph.D., of the Department of History
William A. Koelsch, Ph.D., of the Departments of Geography and History
Mark S. Plovnick, Ph.D., of the Department of Management
Robert N. Beck, Ph.D., and Gary E. Overvold, Ph.D., of the Department of Philosophy
Roger Bibace, Ph.D., of the Department of Psychology
Edward E. Sampson, Ph.D., of the Department of Sociology
Anthony W. Hodgkinson, and Donald W. Krueger, M.F.A., of the Department of Visual and Performing Arts

Affiliate Staff: Doctoral Program
Barbara R. Calveric, Ph.D.
David E. St. John, Ed.D.
Richard C. Wallace Jr., Ed.D.

Clinical Instructors in Education:
Renee L. Goldberg, M.Ed.
Hessa Miller, M.A.
Kenner Myers, M.S.
Nathaniel C. Seale, M.Ed.
Jane V. Sigalis, M.Ed.
Evans Tsoules, M.A.
Margaret C. Vogel, M.A.

Clinical Instructors in Education (Affiliate):
Roland E. Charpentier, M.Ed.
Thomas P. Friend, M.Ed.
David Kneeland, M.A.
Elinor M. McKeon, M.Ed.
Alexander J. Radzik, M.Ed.

UNDERGRADUATE PROGRAMS

Undergraduate education constitutes a major part of the work of the department. In conformity with its policy of emphasizing the importance of the liberal arts as a basis for educational practice, the department offers its courses and programs as electives, not as an undergraduate major. Clark students in education lay a broad foundation of scholarship in the liberal arts and in an academic major to lead into the organized education programs given at the sophomore, junior, and senior year levels.

The various undergraduate programs are designed for students interested in preparing for careers as educators in traditional and nonschool, human-service oriented settings such as family life institutes, day-care settings for children and the elderly, youth organizations, courts, hospitals, correctional and rehabilitation institutions, and social service agencies. In conjunction with various academic departments, the following programs are provided through integrated course work and field experiences:

1) Internship Module in Elementary Education;
2) Internship Module in Secondary Education in various academic subject fields and in special subjects such as art, theater, media studies, music, and bilingual education;
3) Internship Module in Special Education;
4) Psychoeducational Clinician Sequence.

In addition, modules may be individually designed for students interested in the new opportunities for educators emerging in the varied fields of human services. Selected education components may be taken as part of the Clark program at the Pedagogic Institut, Luxembourg.

The internship programs serve as a transition to professional study at the graduate level and for entry into beginning teaching and specialist positions. The elementary-level teacher education program has been approved by the Interstate Certification Compact, a legally-based certification reciprocity agreement between Massachusetts and each of 31 other states and the District of Columbia. The special education sequence, taken as an extension of the regular teaching module, leads to certification in Massachusetts for teaching children with moderate special needs. The secondary-level and special subject teaching modules lead to certification in Massachusetts.

The internship modules and sequences are limited to students who have completed major requirements at a satisfactory level of scholarship. The decision to elect one of the organized programs must be made by sophomore year, be approved by the Department of Education, and—for secondary school and special subject teaching—must also be approved by the appropriate academic department for competency in subject matter areas.

Students interested in professional education are encouraged to consult with some member of the department early in their careers at the University to discuss overall program planning.

GRADUATE PROGRAMS

The department offers one program leading to the degree of master of arts in education, and another leading to the degree of doctor of education. Both graduate programs of study are primarily oriented toward training in those educational activities and services required to meet the special needs of learners who are different because of their individual abilities or because of their sociocultural or economic backgrounds.

MASTER OF ARTS IN EDUCATION

This degree program is designed to extend the professional training of experienced, educational practitioners. The program may be used to enrich the general theoretical background relevant to a candidate's area of educational practice and to develop new professional skills in individually-tailored program concentrations. Master's candidates concentrate their work in areas where there is depth in course offerings available through the facilities of the Department of Education and cooperating academic departments in the University. Clusters have been developed in special education, early childhood education, academic subject fields, environmental education, creative arts and education, and educational management.

Admission Requirements

In addition to the general Graduate School admission requirements, a personal interview is usually required by the Department of Education in order to determine the fit between the program resources and a candidate's goals and interests.

Degree Requirements

The course of study consists of a minimum of eight full course units with an additional requirement to be completed by one of three options: (a) an acceptable thesis, (b) the master's seminar in which an independent major paper will be prepared and presented to fellow graduate students and members of the staff, or (c) two additional full courses. The passing of a final oral examination is required of all candidates.

DOCTOR OF EDUCATION

The doctor of education degree program is an organized, part-time course of study, extending over a three year period, which enables mid-career practitioners to obtain advanced professional training without unduly disrupting their work in the field. The program is planned for the experienced educator of proven ability who expects to assume high-level responsibility in administrative, planning, training, and evaluation roles in schools, government agencies, private organizations, or institutions of higher learning.

All doctoral students complete a core curriculum aimed at imparting a basic understanding of the analytic techniques, the social and behavioral determinants, and the management principles that will contribute to the development of new solutions to significant problems in education. The student then selects one of two program options: the learning specialist or the administrator-planner. The two are closely related. The learning specialist, as a social and psychological analyst, is concerned with what goes into the development of a program for a particular learner or group of learners; the administrator-planner is an educational analyst with the task of forging the mechanism to do the job.

Two year-long practica with concurrent seminars are arranged, using the student's employment setting or an alternative placement. During the first year in a Practicum Seminar guided by a senior educational specialist, the student will focus on a specific topic of educational theory or practice as a basis for an analytic paper. During the second year in a Practicum Seminar, the student will design and implement a specific project of theoretical and practical educational relevance. For example, the student may plan and implement a staff development program, conduct a small-scale institutional research study, design a new curriculum, etc. In the third year, the student typically will complete the required dissertaton.

A small and select group of graduate students guided by a senior mentor ensures the advantages of program flexibility with much opportunity for close and continued contact between staff and students. All program designs have a significant degree of individuality, reflecting the past training and experience and the present goals of the students. The individual study plan is developed within a framework of departmental, University, and field resources.

Admission Requirements

Admission to the doctoral program requires the completion of an acceptable baccalaureate and master's degree, either at Clark or elsewhere. Students who obtain their master's degree with the department at Clark, and who wish to continue their doctoral studies in the department, must apply for continued study at the doctoral level.

A candidate must give satisfactory evidence of aptitude and capacity for graduate study as reflected in academic achievement and aptitude tests (either the Miller Analogies or the Graduate Record Examination). Professional experience, which demonstrates a high level of competence and leadership ability, also is required.

Degree Requirements

Minimal requirements for candidates at the doctoral level demand the equivalent of two years of graduate study beyond the master's level. A doctoral candidate must pass comprehensive examinations at the end of course work and complete a doctoral dissertation.

COURSES

Special Note: As a result of curriculum revisions in the undergraduate programs due to changes in teaching certification requirements, the following courses to be offered for the last time in 1980-81 will not be listed: Educ 219, Educ 230, Educ 287, and Educ 298. Refer to the 1979-80 catalog for course descriptions

88 DIRECTED READINGS—UNDERGRADUATE

Offered for variable credit.
Staff

150 SEMINAR IN MATHEMATICAL CURRICULUM METHODS AND MATERIALS

Methods and materials are taught: (1) to acquaint the student with various methods of approach for theories on teaching math on the secondary school level, and (2) to give the student a pre-student-teaching experience. While conducting mini-courses in math in local high schools, the seminar discusses articles concerned with teaching math, the relationship of the theories to the practice, the problems that are encountered within the mini-courses, and methods of teaching math. Various field trips and guest speakers will be included.
Staff

192 LANGUAGE IN SOCIAL CONTEXT

Also listed for credit as Linguistics 192, and Comparative Literature 192.
Ms. Nigrosh

201.1 THE CHILD AND THE EDUCATIVE PROCESS

This course deals with the behavioral and social science foundations of selected aspects of the educative process as they pertain to the elementary school-age child. Theoretical concepts and principles of learning and development will be considered in relation to: the setting of educational objectives, instructional strategies, motivation, transfer, and assessment and evaluation procedures. Required in the elementary and special education sequences leading to certification.
Mr. Zern

201.2 THE ADOLESCENT AND THE EDUCATIVE PROCESS

This course deals with the behavioral and social science foundations of selected aspects of the educative process as they pertain to the secondary level student. Theoretical concepts and principles of learning and development will be considered in relation to: the setting of educational objectives, instructional strategies, motivation, transfer, and assessment and evalua-

tion procedures. Required in secondary level and special subject sequence leading to certification.
Mr. Zern

201.3 EDUCATIONAL PSYCHOLOGY: SPECIAL TOPICS IN SECONDARY EDUCATION

Individuals or small groups of students will study, discuss, and report on topics of central importance to education during the adolescent years. Offered for variable credit.
Staff

205.2 EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR

Refer to course description under Geography 205.2.
Mr. Knos, Staff

206 AUTOBIOGRAPHY WORKSHOP

Refer to course description under Geography 206. Also listed for credit as International Development 206. Offered for half credit.
Mr. Knos

209 SIMULATION AS A LEARNING DEVICE

Refer to course description under Geography 209.
Mr. Knos

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING

A dual focus is on: (1) illustration and analysis of various cognitive and social interpersonal models of teacher and student behavior in the classroom setting, and (2) introduction to and development of skills involved in systematic observational methodologies, with the classroom as the natural setting. Students carry out a series of assigned observational tasks and execute their own individual projects.
Mr. Zern

223 CONTEMPORARY POLITICAL ECONOMIC PROBLEMS: FACT, VALUE AND ANALYSIS

Refer to course description under Economics 123.5.
Mr. Van Tassel

234 FIELD PROJECTS

This course provides individualized and extended experiences in a wide variety of educational agencies and institutions. Supervision is provided by the University and field agency personnel; combines related seminars and conferences, and readings as a basis for critical analysis of the experiences within the context of applied theory and practice. Offered for variable credit.
Staff

234.1 FIELD PROJECTS: SPECIAL EDUCATION AND HUMAN SERVICES

This is a supervised, practical experience in a school or agency that provides specialized educational and human services. Students may be placed in special classrooms and schools, rehabilitative and correctional agencies, day-care centers for children and adults, social service agencies,

etc. Supervision is provided by University and field agency personnel; combines related seminars, conferences, and readings as a basis for critical analysis of the experiences within the context of applied theory and practice. Offered for variable credit.
Staff

235 FIELD EXPERIENCE IN THE ELEMENTARY SCHOOL

This course provides an initial experience in the elementary classroom. Students will work with teacher trainers, curriculum coordinators, and elementary teachers to learn about classroom management, devising curriculum units, individualizing instruction, etc. Students will work together in teams to develop and teach a unit for use in a specific classroom. An on-site supervisor will help students to move through the planned field experience. This course consists of: (1) a field component of 8–10 hours per week in a school, and (2) a weekly University seminar that considers legal and program issues relating to mainstreaming special needs students in the regular school setting.
Ms. Miller

241 SEMINAR: HISTORY OF AMERICAN HIGHER EDUCATION

Refer to course description under History 246.
Mr. Koelsch

247 CURRICULUM AND INSTRUCTION IN THE ELEMENTARY SCHOOL I

This course deals with key elements of curriculum planning and implementation in reading, language arts, and social studies for the elementary school: stating of objectives; assessment of initial learner status; selection and organization of content, materials, learning activities; instructional modes; evaluation of learning outcomes. A weekly two-hour school-based, field experience is required.
Ms. Miller, Ms. Myers

248 CURRICULUM AND INSTRUCTION IN THE ELEMENTARY SCHOOL II

This course deals with key elements of curriculum planning and implementation in mathematics and science for the elementary school: stating of objectives; assessment of initial learner status; selection and organization of content, materials, learning activities; instructional modes; evaluation of learning outcomes. A weekly two-hour school-based, field experience is required.
Ms. Sigalis, Ms. Vogel

249 THE HELPING RELATIONSHIP

For students interested in entering the helping professions (education, human services), this course will explore the relationship between helper and client. The role and status differences between helper and client will be considered. Interpersonal skills to increase mutual understanding and reduce defensiveness and attitudinal barriers will be developed. The focus will be on learning interview techniques in an effort to identify problems and solutions. Components of the interview will be discussed and practiced: establishing a relationship, listening skills, structuring the interview, exploration, clarification, and identifying directions for action. Readings

will include selections from Carl Rogers, Alfred Adler, Rudolf Dreikurs, Robert Carkhuff, and Don Dinkmeyer. Students will practice skills in weekly lab sessions to be arranged.
Staff

250 ECONOMICS OF EDUCATION

Refer to course description under Economics 250.
Mr. Van Tassel

259 SOCIAL PSYCHOLOGY OF IDENTITY

Refer to course description under Sociology 260.
Mr. Sampson

260 LINGUISTICS AND LANGUAGE LEARNING

Refer to course description under Linguistics 260.
Staff

265 TEACHING ENGLISH AS A SECOND LANGUAGE

Refer to course description under Linguistics 295. Also listed for credit as English 295.
Mr. Macris

266 PSYCHOEDUCATIONAL ASSESSMENT METHODS I: BASIC LEARNING PROCESSES

This course involves intensive experience in administering and interpreting individual tests of intellectual and perceptual-motor functioning, with particular emphasis on the Stanford-Binet and Weschler Intelligence Scales. A central focus is on underlying theoretical constructs and the interpretation, integration, and application of educational and clinical data for individualized educational planning.
Mr. Tsoules

267 PSYCHOEDUCATIONAL ASSESSMENT METHODS II: ACHIEVEMENT AND RELATED PERSONAL AND SOCIAL FACTORS

This course focuses on the administration of group and individual tests to determine achievement status and related personal and sociocultural factors such as aptitude, interests, personality, social and interpersonal competencies, cognitive style, environmental setting, etc.
Mr. Tsoules

268 PSYCHOEDUCATIONAL PRACTICUM AND SEMINAR

This field-based course provides a two-semester placement, 8–10 hours a week, within the pupil personnel department of a public school system. Each student is placed with a school psychologist and/or a counselor who will function as an ongoing supervisor. Practicum activities include:

- performing individual psychoeducational assessments and developing intervention strategies;
- interpreting assessment findings to parents and school personnel;
- supervised counseling intervention on an individual and/or group basis;
- obtaining social and developmental history information through home visits;
- observing and participating in the development of individualized educational plans as part of the Team Evaluation process.

A concurrent, weekly seminar addresses the following:

- clinical observation and behavioral analysis;
- interviewing techniques;
- counseling intervention strategies;
- development of social history information;
- organization and operation of client service systems.

Seminar meetings also will focus on the integration of diagnostic assessment techniques into comprehensive case studies. Emphasis will be placed on exploring the effective use of assessment data, reflective of the child's total environment—home, school, and community. The two semester sequence must be taken as one full course each semester.
Mr. Seale

272 INTERNSHIP TEACHING
This is an intensive period of observation and teaching in a secondary-level or special subject field in which the student plans to teach. Individual supervision is given by the academic department and by a teacher in a cooperating school. Prerequisite: permission of both the academic and education departments. Offered for one and one half course credits.
Academic Departments, Staff, Cooperating Teachers.

272.(1-9) SEMINAR IN STUDENT TEACHING
This is a conference course running concurrently with student teaching at the secondary level and in special subject fields. The seminar aims to develop the student's problem solving ability as it relates to the specific issues and concerns of the classroom. Offered for half credit.
272.1 Seminar in Teaching English
272.2 Seminar in Teaching Foreign Languages
272.3 Seminar in Teaching Social Studies
272.4 Seminar in Teaching Science
272.5 Seminar in Teaching Art
272.6 Seminar in Teaching Theater
272.7 Seminar in Media Studies
272.8 Seminar in Teaching Music
272.9 Seminar in Teaching Mathematics
Academic Departments

288 INTERNSHIP MODULE IN ELEMENTARY EDUCATION
This integrated internship provides an intensive experience in elementary schools in the Worcester area. It involves a full-time, supervised practicum in an elementary school, theoretical course work, seminars, and conferences. The elementary module provides credit in the following areas:
288.1 Practicum (two full courses including the practicum seminar);
288.2 Critical Issues in Elementary Education (one-half course);
288.3 Individualized Instruction and the Integrated Curriculum (one full course);
288.4 Creative Arts and Education (one-half course).
Special workshops in health and physical education for elementary school children will be required. Limited to seniors who have completed major requirements and who meet departmental requirements for admission to the internship module.
Ms. Kenney and Staff

290 PHILOSOPHY OF EDUCATION
This course examines the aims, processes, and materials of education, with

special reference to the influence of philosophical ideas on educational problems. The course also is listed for credit as Philosophy 290.
Mr. Beck

291 DEVELOPMENTAL DEVIATIONS: LEARNING PROBLEMS AND EDUCATIONAL INTERVENTIONS

This course is a survey of the various deviations from typical development, and an introduction to the field of special education. Special needs of children who are gifted, and those who have learning problems related to mental retardation, emotional disturbance, sensory and orthopedic impairments, specific learning disabilities, communication problems, and behavioral disorders will be studied. Observations in several special educational settings will be required, as well as a written term project.
Staff

292 SEMINAR AND FIELD EXPERIENCE IN SPECIAL EDUCATION

The student works under the close direction of a cooperating teacher, for 12–15 hours a week in a special educational setting (resource room, special class, special agency, etc.). A concurrent weekly University seminar considers language development, communication disorders, and rehabilitation issues.
Staff

294 INTERNSHIP MODULE IN SPECIAL EDUCATION

This module includes a supervised practicum in a moderate special needs setting at the elementary school level with related course work centering on psychoeducational assessment techniques, and individualized educational planning and implementation. Emphasis will be placed on the integration and utilization of a full range of data reflecting the child's total environment—home, school, and community—in the design, use, and evaluation of an individualized education plan. Module credit is allocated as follows:
294.1 Individualized Educational Planning (one full course);
294.2 Practicum in Special Education (two full courses).
Staff

295 GROUP AND FAMILY PROCESSES

Refer to course description under Sociology 295.
Mr. Sampson

300 GRADUATE INTERNSHIP IN EDUCATION

Offered for variable credit.
Staff

301 DIRECTED READINGS

Offered for variable credit.
Staff

302 RESEARCH IN EDUCATION

Offered for variable credit.
Staff

305 COGNITIVE FACTORS IN THE EDUCATIVE PROCESS

This is a selective review of major theories of cognitive functioning

focusing on dynamics within the individual. Piaget, Skinner, R. White, Freud's secondary processes, and Wertheimer will be studied.
Mr. Zern

311 ORGANIZATIONAL BEHAVIOR

Refer to course description under Management 311.
Management Department

343 ANALYSIS OF THE RESEARCH PROCESS

The course focuses on two salient dimensions of dealing with research in the social sciences: (1) understanding the structure and intent of a research report, and (2) understanding and being able to use basic statistical techniques. The form of the course will consist of the careful analysis of existing educational research. Each source will be considered in terms of particular elements in its overall structure, including hypothesis formation, operationalization of major terms, research design, etc. In addition, particular statistics in each article will be systematically considered, so that students are led to an understanding of an ability to use major statistical techniques. A full year course.
Mr. Zern

345 RESEARCH AND EVALUATION IN EDUCATION PROGRAMS

This course explores the multiple roles of research and evaluation in developing and improving educational programs, emphasizing the effective use and design of needs assessment, policy research, program implementation research, and impact evaluation. Members will develop a research design for their own professional setting.
Ms. Kenney

366 SEMINAR IN COLLEGE CURRICULUM DESIGN

Refer to course description under Geography 366.
Mr. Knos

371 THESIS

Offered for variable credit.
Staff

380 DEPARTMENTAL SEMINAR ON CONTEMPORARY EDUCATIONAL PROBLEMS AND ISSUES

This course is designed for master's degree candidates who are not writing a thesis. It requires a major paper.
Ms. Kenney, Staff

381 THE SOCIAL CONTEXT OF EDUCATION

This course reviews and analyzes social and cultural theories that provide an understanding of the process of education. Levels of interaction under consideration will be the classroom, the school, and the community. Patterns of educating will be considered within a cross-cultural context, and tools will be provided to facilitate such analyses.
Mr. Zern

382 FOUNDATIONS OF SPECIAL EDUCATION

This course, for graduate students only, focuses on selected major contributions to the field of special education from medicine, psychology,

and education. Works by Itard, Montessori, Dewey, Adler, Werner, and Wolfensberger will be read. Each student will, in addition, analyze a selection from the special education literature on a topic of his/her choice. Major problems in special education will be dealt with from the theoretical and practical points of view, including: the relationship of higher mental processes to the sensory-motor and perceptual processes, holistic approaches versus analytical approaches to teaching, remediation of deficits versus bypass approaches, special treatment versus normalization. The objective for the course is for the advanced student to broaden and deepen his/her theoretical background in the effect of theory on practice in special education.
Staff

383 HUMANITIES SEMINAR: LEARNING AND KNOWING

An interdisciplinary study of the variety of ways we learn and know. The focus for this will be a consideration of the various and often conflicting views of the ideal of the educated person.
Mr. Overvold

384 PRACTICUM AND SEMINAR I

A practicum with a concurrent seminar related to the student's own professional work setting or an alternative placement intended to enable the student to explore the theoretical basis and empirical research in a selected educational problem area. Students will meet individually and in small groups with a senior educational practitioner. The results of the year's experience will be reported in a formal analytic paper. A full year course.
Ms. Kenney and Affiliate Staff

385 PRACTICUM AND SEMINAR II

A second year practicum with a concurrent seminar related to the student's own professional work setting or an alternative placement intended to provide an experience in designing, implementing, and reporting a project of educational significance and relevance. Students will work individually and in small groups with a senior educational practitioner. A full year course.
Ms. Kenney and Affiliate Staff

386 CASE STUDIES IN PSYCHOEDUCATIONAL ASSESSMENT AND PLANNING

Psychoeducational assessment techniques are viewed in terms of their efficacy in presenting a picture of the exceptional child's abilities and needs and providing direction for educational planning. The process from child find, through screening, assessment, reporting and team evaluation, to the development of the educational plan will be reviewed critically. Criteria for judging diagnostic instruments, educational planning, and programming for children with special needs will be developed. Viewpoints of the child, the family, and the school staff will be compared. Problems of interprofessional and professional-parent communication will be considered.
Staff

387 SOCIAL SCIENCE SEMINAR: THE CONTEMPORARY AGE IN GLOBAL PERSPECTIVE

This course attempts to outline the major conditions affecting the

individual at the end of the twentieth century. It examines salient features of the external framework of human existence in terms of politics, economics, the relations between rich and poor in the world, technology, ecology, major natural resources, and the role of the individual in national and global society. The role of education will be considered within this global perspective.
Mr. Von Laue

English

DEPARTMENT FACULTY

James F. Beard Jr., Ph.D., Professor of English, Department Chair
Karl O.E. Anderson, Ph.D., Professor of English, Emeritus
Charles S. Blinderman, Ph.D., Professor of English
William H. Carter Jr., Ph.D., Professor of English, Director of Graduate Studies
Serena S. Hilsinger, Ph.D., Professor of English
James Macris, Ph.D., Professor of English and Linguistics
Stanley Sultan, Ph.D., Professor of English
Virginia Mason Carr, Ph.D., Associate Professor of English
John R. Conron, Ph.D., Associate Professor of English
Jessie C. Cunningham, Ph.D., Associate Professor of English, Emeritus
James P. Elliott, Ph.D., Associate Professor of English
Leone Scanlon, Ph.D., Director, Clark Writing Center
Rockie Blunt, M.A., Visiting Lecturer in English
Affiliated Staff
Arthur F. Kinney, Ph.D., Professor of English

UNDERGRADUATE PROGRAM

The English Department believes that it should provide courses taught by specialists in the major periods of English and American literature and insist that, upon graduation, the English major have some background in most of these periods. The department feels that this background should include not only experience of the literature of these periods, but also some understanding of the historical and philosophical contexts in which the works were written. Ideally, an English major, upon graduation, should possess a sense of cultural history, a developed sensibility, and a knowledge of the major authors, works, and periods of English and American literature; also, the student should be capable of critical thinking and effective expression of that thinking. In sum, the student should have achieved a rigorous humanistic education.

To this end, the department provides certain elective and required courses for the first two years of the major. An elective, Introduction to Literature (Eng 10), involves intensive training in "close reading" and in critical writing. An elective in Expository Writing (Eng 18) provides intensive work in composition. A survey of major figures, either British (Eng 100) or American (Eng 101) is required.

The department requires two courses focusing on the historical development of English literature. One is Eng 13, English Poetry; this course is required of all majors. The second requirement may be fulfilled either by Eng 154, English Fiction, or Eng 155, English Drama. During the sophomore year each major selects—in consultation with his/her adviser and other appropriate members of the staff—a suitable *area of concentration.* Within this framework, she/he will pursue a carefully integrated program of advanced study. To insure this careful integration, the department requires each major to consult with his/her adviser and obtain approval of his/her program at every registration period. The *interdisciplinary concentration* permits students to carry a second major (see II below).

For majors in their junior and senior years, the department provides a series of courses and seminars devoted to intensive study of specific periods and authors, courses that demand mature and critical thinking and require independent work which reflects the student's ability to deal with complex ideas and express himself/herself effectively. During these last two years, each student is also required to take one of two seminars specifically designed to achieve an integrating and synthesizing function—either Eng 297, Varieties of Literary Criticism, or Eng 298, The Mythopoetic Mode.

The above statement of policy is based, in part, upon identification of our majors:

1) students whose goal is graduate work in English or American literature;
2) students who are preparing for primary or secondary school teaching;
3) students with an interest in literature who wish a general education.

To the first group, the program provides the background necessary for admission to and success in any graduate program—here or abroad—in English or American literature. To the second group, the program demands and emphasizes knowledge of subject matter and assumes that it is certainly as important as development of the skills, methods, and techniques of teaching. To the third group—because literature does not exist in a vacuum, cannot be experienced or taught in a vacuum—the program provides a history of mind, as much as it does the history of that specific manifestation of mind which is English literature.

I. BASIC PROGRAM FOR ALL ENGLISH MAJORS

Nonrequired Preparatory Courses:

Eng 10, Introduction to Literature
Eng 18, Expository Writing

General Requirements:

A. One full year Survey Course from the following:
   Eng 100a and b, Major British Writers
   Eng 101a and b, Major American Writers
B. Two Genre Courses:
   1. Eng 13, English Poetry (full course, Semesters 1, 2; recommended during freshman year), or Eng 105, American Poetry
   2. Either Eng 154a and b, English Fiction, or Eng 155a and b, English Drama

These full year genre courses, like the surveys above, are developed chronologically to help consolidate the student's sense of period and of historical development.

C. One 200-level Seminar in Criticism:
   Eng 297, Varieties of Literary Criticism; or Eng 298, The Mythopoetic Mode
   Both course offerings are designed to provide one kind of "capstone experience" and to develop key theoretical, analytical, and methodological skills.
D. Area Requirements:
   To help majors develop greater historical perspective and awareness of

the range and variety of English and American literature, all majors must take at least:

1. Two full courses or seminars dealing with English literature written before 1700. (One of these courses may be 100a, Major British Writers, or Eng 155a, English Drama.) The 200-level courses fulfilling this requirement include Eng 203, Medieval Literature; 206, Chaucer; 212a and b, Shakespeare; 215, Special Studies in Renaissance Drama; 216, Literature of the Renaissance; 220, 17th Century; 222, Milton and the Restoration Drama.
2. Two full courses or seminars dealing with English or American literature written between 1700 and 1900. (One of these courses may be Eng 100b, Major British Writers; 101a or 101b, Major American Writers; 154a or 154b, English Fiction; or 155b, English Drama.) The 200-level courses fulfilling this requirement include: 226, The Augustans and the Age of Johnson; 236, British Romantic Literature; 238, Blake; 239, American Literary Renaissance; 242a and b, Victorian Literature; 244, Romantic and Victorian Gothic; 245, Darwinism; 247, Dickens; 249, Twain, Howells, and James; 279, American Landscapes; 254, Realism and Naturalism in American Fiction; 289, American Selves: Autobiography.

E. Every major's program must include at least four full (semester) courses at the 200-level in English, in addition to Eng 297 or 298.

II. INDIVIDUAL AREAS OF CONCENTRATION

In consultation with his/her adviser and other appropriate members of the staff, each major shall select — normally during the sophomore year — a suitable area of concentration. Within this framework she/he will pursue a carefully integrated program of advanced study. Students wishing to double major may make the second major the basis for a concentration, applying it to the study of English language or literature in a project during the senior year.

III. HONORS PROGRAM

A student who plans to take honors in English should choose an area of concentration and an adviser, and apply to the department chair before the end of junior year. At the student's discretion and with the instructor's approval, a student may register for an Honors Project, which will carry one or two credits. If the project warrants two courses, credit for one semester's Directed Reading and one semester's Directed Writing can be arranged simultaneously or in sequence. The adviser and the student will agree on deadlines for the project's stages, but the department requires a first draft by the first Monday in March. A complete thesis is due one week before the last day of classes. A second reader, chosen by the student and his/her adviser, will participate in the final evaluation. In no case will honors be granted to any student who fails to meet *both* deadlines (although the project still qualifies for course credit and grade).

IV. CONSORTIUM OFFERINGS

The range of English offerings open to Clark students has been extended by the establishment of a cooperative arrangement with the English departments at Assumption College and the College of the Holy Cross. With the permission of the department, majors and graduate students may take a few carefully selected courses in literature at these institutions.

V. INTERNSHIP IN JOURNALISM

In cooperation with the University's Internship Office, the English Department administers a program of internships for juniors and seniors in journalism and related fields. In addition to internships in newspaper journalism, the program places students in the news departments of radio and television stations, periodical and book publishers, and the communications departments of large organizations. An intern may major in any discipline and select his/her own faculty adviser for the internship.

GRADUATE PROGRAM

The University offers a program leading to the master of arts degree in English. A limited number of scholarships providing tuition remission are available for superior students. The department also offers several teaching assistantships, involving half-time teaching and half-time study, with stipends ranging up to $3,700, plus the remission of tuition.

For the master of arts, the student must satisfactorily complete at least eight full courses of work, including Eng 300, Introduction to Graduate Study; and Eng 280, History of the English Language; and at least one additional seminar. During the second semester of her/his first year in residence, the student must satisfactorily complete Eng 349, Thesis Workshop. To obtain a degree, the student also must complete an acceptable master's thesis, Eng 350 (one full course), AND pass a final oral examination.

COURSES

10 INTRODUCTION TO LITERATURE

This course provides the student with an opportunity for intensive reading and writing about basic elements of poetry, fiction, and drama to include the use of diction, imagery, point of view, tone, and structure. Small sections and limited reading lists will help establish an atmosphere conducive to significant class discussion; emphasis will also be placed on writing effectively about literature. Strongly recommended for English majors. No student may take more than one section of English 10.
Staff

13 ENGLISH POETRY

This course, required for the English major, focuses upon the development of the most important forms, themes, and movements of English poetry. It emphasizes intensive study and discussion of individual poems. A series of essays on assigned topics is required.
Mr. Sultan, Ms. Hilsinger, Mr. Carter

14 LITERATURE AND SCREEN STUDIES

The assumption of this course is that the definition of literature can encompass both written and filmic modes. Thus analogous forms of both modes—such as novel, epic, ballad and poem—will be examined in parallel to determine similiarities and differences in their structures. Offered at the discretion of the department. Prerequisite: Verbal skills course or permission of instructor. Also listed for credit as Screen Studies 241.
Mr. Hodgkinson, Mr. Elliott

16 CREATIVE WRITING

A course designed to cultivate and guide student work, particularly in the short story, the lyric poem, and the informal essay. Class meetings deal largely with important aspects of the art of fiction; published literary works and student manuscripts are discussed. Not open to freshmen. Prerequisite: one semester of literature taught in any department. Like

some studying the work of established essayists. Close conly on a credit/no record basis.
Staff

17 CREATIVE WRITING

Open to students who have taken English 16 and to other students interested in writing verse. Prerequisite: same as English 16. Not open to freshmen. Like most of our other writing courses, English 17 is graded only on a credit/no record basis.
Mr. Sultan

18 EXPOSITORY WRITING

The purpose of English 18 is to improve expository writing skills by means of specific writing experiences. Students enrolled in this course will be expected to attend two classes per week and to confer with the instructor at least four times a semester, supplemented as needed by the Writing Center. Each of the seven themes (or the equivalent) and a short research paper must be revised as needed to bring them up to a reasonable standard of college writing. Like most of our other writing courses, English 18 is graded only on a credit/no record basis.
Staff

19 INTERMEDIATE COMPOSITION

This course is designed to help those who already have acquired competence in expository writing to improve their style and effectiveness through extensive practice. Special emphasis will be placed on the development of style through such methods as keeping a journal, reading aloud one's own work, and studying the work of established essayists. Close consideration will be given student papers by other students as well as by the instructor. Classes will be informal and will call for the exchange of ideas. Like most of our other writing courses, English 19 is graded only on a credit/no record basis.
Ms. Scanlon

25 WRITING FOR MAGAZINES

The course is designed to help students develop appropriate styles for submission of expository articles (sometimes, of stories) to magazines and newspapers. Some energy will be devoted to studying the history and nature of the English language, but emphasis will be placed upon analysis of contemporary periodicals and of student papers. Prerequisite: permission of the instructor.
Mr. Blinderman

77 INTERNSHIP

Offered for variable credit.
Staff

88 DIRECTED READINGS

Offered for variable credit.
Staff

90 SPECIAL PROJECTS

Offered for variable credit.
Staff

Note: When asking an instructor to sponsor Directed Readings 88 or a Special Project 90, the student (1) must be able to satisfy the instructor at the time of registration that he/she is competent to deal with the agreed upon materials primarily as works of literature and (2) must present a well thought-out proposal. The student must have taken the initiative in conceptualizing the principles on which she/he will select readings or carry out a special project, and he/she must have demonstrated competence in determining specific selections and procedures.

100 MAJOR BRITISH WRITERS

This course is designed to give the beginning student a sense of the historical development of English literature; consequently, each author will be studied both as a representative of his/her own time and as part of a continuing tradition. First semester: *Beowulf;* selections from Chaucer (in translation); *Sir Gawain and the Green Knight;* Spenser's *Faerie Queene,* Book I; selections from Shakespeare, Donne, and Milton. Second semester: Bronte's *Wuthering Heights* and Conrad's *Lord Jim,* Pope's *Rape of the Lock,* selections from Blake, Wordsworth, and Browning. Prerequisite: Verbal skills course or permission of instructor.
Ms. Carr, Mr. Sultan

101 MAJOR AMERICAN WRITERS

Through study of representative masterworks, the course traces the main currents of American literature from Puritan times to the present. Authors to be read during the first sememster include: Taylor, Edwards, Franklin, Cooper, Emerson, Thoreau, Poe, Hawthorne, and Melville; during the second semester: Whitman, Twain, Howells, Dickinson, Adams, Crane, James, Frost, Eliot, Faulkner, and Hemingway. Prerequisites: detail, stressing interaction of plot and character wlls course, or permission of the instructors.
Mr. Elliott (Semester 1, 1980);
Mr. Conron (Semester 1, 1981); Mr. Beard (Semester 2)

105 AMERICAN POETRY

A study of selected American poets in light of a common theme or poetic form, this course is designed to introduce students to the close reading of poetry and to the question of its relation to American culture. In 1981, the theme will be "The Poet in a Landscape: American Versions of Pastoral Poetry," and the poets to be studied will include Ralph Waldo Emerson, Emily Dickinson, Robert Frost, William Carlos Williams, Maxine Kumin, and Donald Hall.
Mr. Conron

110 INTRODUCTION TO HISTORY AND AMERICAN STUDIES

This is an introduction to the basic problems of interdisciplinary study and historical method as revealed in American issues and writings. The nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. Previously listed as 130. Also listed for credit as History 110.
Mr. Ford, Mr. Formisano

112 INTRODUCTION TO SHAKESPEARE

Designed for the general student who wants an introduction to Shakespeare, this course will study several major plays in detail, stressing interaction of plot and character while relating each play to common human situations and moral dilemmas. Particular attention will be paid to *values,* what they are, and how the characters deal with them. Plays to be read include *The Merchant of Venice, Measure for Measure, Julius Caesar, Hamlet,* and *The Tempest.* Prerequisite: Verbal skills course or permission of the instructor.

Ms. Carr

115 FICTION BY WOMEN WRITERS

Authors read will include Behn, Burney, Austen, Shelley, the Brontës, Eliot, Gilman, Chopin. The emphasis in this course will be upon these women authors' and their characters' reactions to, and interactions with, the historical atmospheres and landscapes of their respective ages. Prerequisite: Verbal skills course or permission of instructor.

Ms. Hilsinger

116 MODERN FICTION BY WOMEN WRITERS

The selection of authors and works is based on three major concerns: that the literature read represent a chronological span, that it preserve a certain thematic coherence, and that it allow ample opportunity for discussion of aesthetic matters. The course is concerned with works written in the twentieth century that provide portraits of women in all stages and conditions of life rendered in a broad spectrum of fictional techniques. Authors studied include Gertrude Stein, Djuna Barnes, Katherine Mansfield, Virginia Woolf, Katherine Ann Porter, and Doris Lessing. Offered at the discretion of the department. Prerequisite: Verbal skills course or permission of instructor.

Ms. Hilsinger

125 THE SHORT STORY

This course involves the intensive reading of a wide range of stories that exemplify a variety of fictional methods, affording the student some knowledge of the history of this literary type. The primary aim is to help the student develop an appreciation of the broadly human values implicit in the short story. Limited to 25 students. Offered at the discretion of the department. Prerequisite: Verbal skills course or permission of instructor.

Mr. Carter

129 MODERN DRAMA

This course is a survey of Western drama and theater from Ibsen to the present. The first semester traces the development of modern realistic drama and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major postwar movements and the radical dramatic forms they have produced. Also listed for credit as Theater Arts 154.

Mr. Schroeder

139 LITERATURE AND SCIENCE

The course will trace the impact of scientific discovery upon literature and the literary accomplishments of scientists. It is thus a study both in the history of ideas and in literary style. Student research will be encouraged.

Offered at the discretion of the department. Prerequisite: Verbal skills course or permission of instructor.
Mr. Blinderman

140 SCIENCE FICTION AND FANTASY LITERATURE: THE TRADITION

While contemporary works will be included, this course will focus on contributors to the tradition: Plato, Bacon, More, Mary Shelley, Poe, Morris, Wells, and Bellamy. Limited to 25 students. Independent research and reports will be required. Offered at the discretion of the department. Prerequisite: Verbal skills course or permission of instructor.
Mr. Blinderman

143 MODERN BRITISH FICTION

This course deals primarily with the work of five twentieth-century British writers of fiction: Joyce, Lawrence, Woolf, Forster, and Lessing. Prerequisite: Verbal skills course or permission of instructor.
Ms. Hilsinger

144 MODERN AMERICAN FICTION

A critical introduction to the best American fiction from about 1900 to 1960, with emphasis on its aesthetic values, sociological insights, and philosophical implications. Authors read will include Dreiser, James, Anderson, Fitzgerald, Hemingway, Capote, Faulkner, Ellison, and Mailer.
Mr. Beard

146 LITERATURE OF OUR TIME

A survey of contemporary literature written between 1960 and the present. Major themes will be illustrated in works by such writers as Barth, Mailer, Stone, Vonnegut, Brautigan, Plath, Coover, Pynchon, and Nabokov. Since many of these writers use innovative techniques, an acquaintance with conventional literary devices will be needed. Prerequisite: Verbal skills course or permission of instructor.
Mr. Elliott

154 ENGLISH FICTION

An exploration of narrative and fictive modes from their earliest appearances in English to the twentieth century. In the first semester, texts will include *Moll Flanders, Clarissa, Tom Jones, Tristram Shandy,* and others. Writers considered in the second semester will include Thackeray, Dickens, Hardy, Conrad, and others. Close attention will be paid both to texts and to their cultural contexts. Prerequisite: Verbal skills course or permission of instructor.
Staff

155 ENGLISH DRAMA

This is a course in the major periods of the English drama and theater before the twentieth century. The first semester covers the medieval theater, and the drama of Tudor, Jacobean, and Caroline England. The second semester covers the period from 1660 to the twentieth century. No prerequisite. Also listed for credit as Theater Arts 156.
Mr. Schroeder

161 ADVANCED CREATIVE WRITING

Admission by permission of instructor, who will require a sample of the student's work. Enrollment limited to 10. Like most of our other writing courses, English 161 is graded on a credit/no record basis. Offered at the discretion of the department.
Mr. Sultan

172 EUROPEAN ROOTS OF AMERICAN SPACE: THE CROSS-ATLANTIC EXPERIENCE

This is an examination of the European images of the known world at the time of the discovery of America, and of how these early notions affected later thought about America in the areas of the arts, geography, and philosophy. With the use of literature, film, and other artistic forms, specific mooels are to be studied in a variety of contexts: the island, the city, the garden, the frontier, the general contrast between primitive and civilized spaces. The course is also listed for credit as Geography 172. Enrollment is limited to 15 students.
Mr. Conron

182 ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS

This is a study of Romanticism in philosophy, literature, music, and the visual arts. Romanticism is seen as a rebellion against traditional values in art and life, placing the individual at the threshold of modernity. Expressions of the themes of alienation and personal transformation are studied in novels and novellas, poetry, philosophical literary works, program music, painting, and film. Part of a Humanistic Studies cluster; also offered for credit as Philosophy 182, Comparative Literature 182, and Music 182. Offered at the discretion of the department. Prerequisite: Verbal skills course or permission of the instructor.
Mr. Blinderman, Mr. Castonguay,
Mr. Overvold, Mr. Schatzberg

203 SEMINAR: MEDIEVAL LITERATURE

A study of the literature of the Middle Ages, with special emphasis upon the literature of England. Readings will include *The Song of Roland, The Romance of the Rose,* Dante's *Inferno, Sir Gawain and the Green Knight,* the *Pearl,* selected lyrics and plays, Malory's *Morte D'Arthur,* as well as selections from the *Canterbury Tales.* Offered in alternate years.
Ms. Carr

206 SEMINAR: CHAUCER

A study of *Troilus and Criseide* and the best of the *Canterbury Tales,* followed by a more rapid reading of Chaucer's earlier works, *The Book of the Duchess, The House of Fame, The Parliament of Fowls,* and *The Legend of Good Women.* Offered in alternate years.
Ms. Carr

212 SHAKESPEARE

Approximately 20 plays are read through the year in a close examination of Shakespeare's development as a dramatist. The course will also introduce students to recent developments in Shakespearean criticism and research techniques. Semester 1 will cover Shakespeare's early plays, the histories and the mature comedies, ending with *Hamlet.* Semester 2 will

emphasize the later tragedies and the romances. Open only to junior-senior English majors and students who have successfully completed English 112.
Ms. Carr

216 THE RENAISSANCE IN ENGLAND

From Thomas More's book on nowhere-at-all (called *Utopia*) to Shakespeare's witches who argue, in *Macbeth*, that "Fair is foul and foul is fair," to the metaphysical poetry of John Donne, this course will examine equivocation as the mode of thought and response in the sixteenth century, a century torn by the Protestant discoveries of Copernicus, the economic rise of capitalism, the wars with Spain (and the Spanish Armada), and the quiet political revolution—from monarchy to government by Parliament. Offered at the discretion of the department.
Mr. Kinney

220 SEMINAR: SEVENTEENTH CENTURY

A study of selected Metaphysical, Cavalier, and early Neoclassical poets (including John Donne, George Herbert, Henry Vaughan, Richard Crashaw, Ben Jonson, Robert Herrick, Andrew Marvell, John Wilmot, Earl of Rochester, and John Dryden), and of major writers of seventeenth-century prose (including Sir Francis Bacon, Thomas Hobbes, Izaak Walton, Robert Burton, Sir Thomas Browne, John Evelyn, Samuel Pepys, John Locke, and John Dryden). Offered in alternate years. Prerequisite: permission of instructor.
Mr. Carter

222 SEMINAR: MILTON AND THE RESTORATION DRAMA

This is an intensive reading of Milton's poems and selected Restoration plays by Wycherley, Etherege, Dryden, Congreve, and others. Offered in alternate years. Prerequisite: permission of instructor.
Mr. Carter

226 SEMINAR: STUDIES IN EIGHTEENTH-CENTURY LITERATURE

The first seven weeks of this course will focus primarily on the Augustans—the poetry of Pope; Swift's poems, essays, and *Gulliver's Travels;* and Gay's *Beggar's Opera.* As these authors tend to be intensely topical and satirical, substantial effort will be made to relate them and their writings to the literature, life, and thought of the times. The rest of the term will deal with the Age of Johnson. Although our primary emphasis will be on James Boswell and Samuel Johnson, we will also deal with a number of eighteenth-century poets (to be selected from the following: James Thomson, William Collins, Thomas Gray, Christopher Smart, Oliver Goldsmith, Thomas Chatterton, William Cowper, and George Crabbe) and with at least two eighteenth-century dramatists—Goldsmith and Sheridan. The course will be flexibly designed to permit students to investigate other contemporary figures in related arts or disciplines (e.g., Bernard Mandeville, David Hume, Edward Gibbon, Sir Joshua Reynolds, and Edmund Burke). Offered in alternate years. Prerequisite: permission of instructor.
Mr. Carter

236 BRITISH ROMANTIC LITERATURE

The course will examine its subject from different perspectives—philosophical, biographical, and critical. To uncover what the Romantic

sensibility is—how it relates to nature, love, revolution—we will study selected works of the major Romantic authors: Burns, Blake, Wordsworth, Coleridge, Shelley, and especially Keats and Byron. Offered at the discretion of the department.
Mr. Blinderman

238 SEMINAR: WILLIAM BLAKE

This is an introduction to the poems and a selection of the prophetic books of Blake, including some consideration of Blake as a graphic artist. Offered at the discretion of the department. Prerequisite: permission of instructor.
Mr. Carter

239 SEMINAR: AMERICAN LITERARY RENAISSANCE

Characteristic writings by Emerson, Thoreau, Hawthorne, Poe, Melville, and Whitman are juxtaposed dialectically to explore the uniqueness of their individual and collective accomplishments and their larger implications in the context of American culture. Field trip to Concord and possibly elsewhere. Offered at the discretion of the department. Prerequisite: permission of instructor.
Mr. Beard

240 AMERICAN CULTURE AND SOCIETY, 1820–1860

This is an interdisciplinary study of the emergence of America as a nation and as a culture. The course will concentrate on the conflict between the ideals of individualism, nature, and community and the realities of changing social conditions. Attention will be paid to some significant patterns of Jacksonian thought and politics, to cultural geography, and to the arts (literature, painting, and architecture). There will be several field trips. Enrollment limited to 25 students. Also listed for credit as History 240.
Mr. Conron, Staff

241 AMERICAN THOUGHT AND CULTURE SINCE 1860

This is an interdisciplinary study concentrating on the American city since 1860. Cultural patterns and themes to be studied include the interrelation of ideals of community and changing social organization and the role of some ideas (Darwinism, the realist and modernist aesthetics) in perception of the city. The course will include perspectives of history, geography, sociology, and the arts (primarily literature, painting, film, and photography). Enrollment limited to 25 students. Also listed for credit as History 241.
Mr. Conron, Staff

242 VICTORIAN LITERATURE

Victorian responses to significant issues such as religious belief, social reform, civil liberties, sex roles, and the aesthetic experience illuminate our own responses to these issues. The first semester of the course will study works particularly relevent to the concerns of our own time. Among other authors, we will discuss Newman, Tennyson, Browning, Arnold, Huxley, and Pater. The second semester will focus on Victorian fiction; its major authors will be Dickens, Thackeray, Trollope, Hardy, and Oscar Wilde. Offered in alternate years.
Mr. Blinderman

244 SEMINAR: ROMANTIC AND VICTORIAN GOTHIC

This seminar will call forth the Gothic spirit from its residence in graveyards. We'll encounter Frankenstein's monster, Heathcliff, Dracula, transvestites and other aberrations infesting Gothic poetry and prose from the mid-eighteenth century to the present. Films and a field trip. Prerequisites: an active imagination and permission of the instructor. Offered at the discretion of the department.
Mr. Blinderman

245 SEMINAR: DARWINISM

This seminar, of an interdisciplinary nature, is devoted to the study of original and research materials elucidating the scientific, philosophical, religious, and social dimensions of Darwinism. The course examines chiefly the survival of the fittest Darwinian ideas in English and American literature. Offered at the discretion of the department. Prerequisite: permission of instructor.
Mr. Blinderman

249 SEMINAR: TWAIN, HOWELLS, AND JAMES

This course will explore the artistic assumptions underlying American realism through selected works of America's three best-known realists. We will also pay some attention to the development of each writer by reading samples of his early, middle, and later work. Offered in alternate years. Prerequisite: permission of instructor.
Mr. Elliott

254 SEMINAR: NATURALISM IN AMERICAN FICTION

This course will explore the artistic assumptions underlying American naturalism (1890-present). We will examine the themes and techniques used by such writers as Crane, Norris, London, Dreiser, Steinbeck, and Capote. Offered in alternate years. Prerequisite: permission of instructor.
Mr. Elliott

257 SEMINAR:THE IRISH LITERARY MOVEMENT

This is a course in the inception, development, and effect of the literary movement during the end of the last century and the first decades of this one that created an Irish literature in English. Writers studied include Yeats, Joyce, Synge, and O'Casey. The cultural, historical, and political backgrounds of Anglo-Irish literature are also studied. Offered at the discretion of the department.
Mr. Sultan

258 LAWRENCE AND JOYCE

An intensive introduction to the art of the two writers. Poems, short stories, and novels by both will be studied. Offered at the discretion of the department.
Mr. Sultan

259 MODERNIST POETRY

This is a survey, with special attention to the genesis and development of modernism, and to tendencies toward a new movement in English poetry. The works of almost 50 poets, ranging in time from Emily Dickinson to Robert Creeley, are considered. Offered in alternate years.
Mr. Sultan

261 SEMINAR: W. B. YEATS

An intensive study of the accomplishment of Yeats. The principal concern will be his poetry, but attention will be given to his thought, his dramatic and other writings, and his cultural role in Ireland and the world during his time. Offered at the discretion of the department. Prerequisite, one of the following: English Poetry, The Irish Literary Movement, T. S. Eliot; also, permission of instructor.
Mr. Sultan

264 SEMINAR: T. S. ELIOT

This is an intensive study of the major poems, plays, and critical essays of T. S. Eliot. Offered at the discretion of the department. Prerequisite: permission of the instructor.
Ms. Hilsinger

266 SEMINAR: VIRGINIA WOOLF

This is an intensive study of Woolf's nine novels, her short stories, her major essays, and her diary. The course will emphasize the artistic process as well as the vision of Woolf's work, and it will consider such collateral issues as Woolf's critical stance and her feminism. Offered at the discretion of the department. Prerequisite: permission of instructor.
Ms. Hilsinger

267 SEMINAR: SPECIAL STUDIES IN TWENTIETH-CENTURY AMERICAN LITERATURE: HEMINGWAY AND FAULKNER

This is a seminar devoted to the intensive study of a twentieth-century writer or small group of writers. Offered at the discretion of the department. Prerequisite: permission of instructor.
Mr. Beard

268 SEMINAR: EUGENE O'NEILL

This is an intensive study of about 20 of O'Neill's plays, from the early one-acters to *The Iceman Cometh, Long Day's Journey into Night,* and *A Moon for the Misbegotten,* with some attention to ideas, persons, and theatrical movements affecting O'Neill. Offered at the discretion of the department. Prerequisite: permission of instructor.
Mr. Beard

273 SEMINAR: F. SCOTT FITZGERALD AND THE TWENTIES

American literature experienced a rebirth in the 1920s. Using F. Scott Fitzgerald's writings as convenient points of reference, the seminar will examine, with particular attention to experiments in expression, works by such writers as Gertrude Stein, E.E. Cummings, T. S. Eliot, Sherwood Anderson, Ernest Hemingway, Sinclair Lewis, William Faulkner, Eugene O'Neill, William Carlos Williams, and Wallace Stevens. Interrelationships among the arts significant in the development of new forms and modes of expression will be stressed. Offered at the discretion of the department. Prerequisite: permission of instructor.
Mr. Beard

278 SPECIAL STUDIES IN TWENTIETH-CENTURY LITERATURE

Tutorial with individual students who will develop their own projects in English literature or comparative literature (English and French, Spanish, German, or English and more than one of the others). Projects need not be

critical papers. Translation, studies in the sociology of literature, the editing of private papers, and other projects may be undertaken. Offered at the discretion of the department. Prerequisite: permission of instructor. Half course.
Mr. Sultan

279 THE AMERICAN LANDSCAPE

This is an interdisciplinary course on the American landscape, with emphasis on the perceptions of travelers and inhabitants as they are expressed in literature. The historical range, from the sixteenth to the twentieth century, will allow considerations of several major stages in the history of these perceptions. Readings will also be drawn from cultural geography and from art history. The course will be taught as part of a cluster including Geography 279 (Prof. Johnson) and Art 279 (Prof. Grad). Limited to 20 students. Permission of instructor required.
Mr. Conron

280 THE HISTORY OF THE ENGLISH LANGUAGE

This course traces the development of English from Proto-Indo-European to present day American English. It concentrates on the main phonological, morphological, syntactic, and lexical features of the Old English, Middle English, Early Modern English, and Modern English periods. M.A. candidates in English are required to take this course. Prerequisite: permission of instructor.
Mr. Macris

282 OLD ENGLISH

This is an introduction to Old English language and literature. The works read include King Alfred's preface to Pope Gregory's *Pastoral Care* and selections from the West Saxon Gospels, from the Old English translation of the Heptateuch, from Aelfric's *Colloquy,* from the Anglo-Saxon Chronicle, and from the Old English translation of Bede's *Historia Ecclesiastica Gentis Anglorum.* Offered at the discretion of the department. Prerequisite: permission of the instructor.
Mr. Macris

284 SEMINAR: MODERN AMERICAN ENGLISH

This seminar analyzes the grammatical structure of Modern American English. It concentrates on an evaluation system for handling spoken and written English and the application of this system to problems of current English usage. The relevance of linguistic theory and methodology of the teaching of English receives special attention. Offered at the discretion of the department. Prerequisite: permission of instructor.
Mr. Macris

289 AMERICAN SELVES: AUTOBIOGRAPHY

Since the emergence of the colonies, self-histories have been an indispensable mode of literary expression in America. The course will examine some of the cultural tendencies in America behind the impulse to self-history and some of the forms this impulse has taken. It will begin by considering representative models of autobiography from the eighteenth and early nineteenth centuries, including works by Jonathan Edwards, Benjamin Franklin, Frederick Douglass, and Walt Whitman. The major concentration, however, will be on such modern autobiographies as *The Education of*

Henry Adams, The Autobiography of Alice B. Toklas, Black Boy, These are Our Lives, and Frederick Exley's *A Fan's Notes.* Offered at the discretion of the department.
Mr. Conron

291 THE PROTESTING VOICE AND THE INDIGNANT EYE: SATIRE IN LITERATURE AND THE VISUAL ARTS

This is a survey of the range and vitality of the genre of satire in literature from Aristophanes to the present and in the visual arts from the fifteenth century to Picasso. Offered at the discretion of the department. Prerequisite: English 10, or one semester of study in literature taught in any department.
Mr. Carter

295 TEACHING ENGLISH AS A SECOND LANGUAGE

Refer to course description under Linguistics 295. Also listed for credit as Education 265.
Mr. Macris

297 SEMINAR: VARIETIES OF LITERARY CRITICISM

Using a small number of model literary works, this course explores the theory and practice of alternative critical perspectives and schools of criticism.
Mr. Sultan

298 SEMINAR: THE MYTHOPOETIC MODE

This seminar explores the vision and epistemology of mythopoetic literature. Works read and discussed include Shakespeare's *Henriad,* Milton's *Paradise Lost,* Bronte's *Wuthering Heights,* Melville's *Moby Dick,* and a work of the modern period. Candidates for honors in English are encouraged to elect either this seminar or English 297, in their junior year. Prerequisite: permission of instructor.
Ms. Hilsinger

299 HONORS IN ENGLISH: SENIOR YEAR

A student who plans to take Honors in English should choose an area of concentration and an adviser, and apply to the department chair before the end of junior year. At the student's discretion and with the instructor's approval, a student may register for an Honors Project which will carry one or two credits. If the project warrants two courses, credit for one semester's Directed Reading and one semester's Directed Writing can be arranged simultaneously or in sequence. The adviser and the student will agree on deadlines for the project's stages, but the department requires a first draft by the first Monday in March. A complete thesis is due one week before the last day of classes. A second reader, chosen by the student and his/her adviser, will participate in the final evaluation. In no case will honors be granted to any student who fails to meet *both* deadlines (although the project still qualifies for course credit and a grade).
Staff

300 INTRODUCTION TO GRADUATE STUDY IN ENGLISH

This course examines certain fundamental aspects of literary theory and considers the nature of and relationships among the three principal areas in the discipline—bibliography and textual analysis, literary history, and

literary criticism. M.A. candidates not specifically exempted are required to take this course.
Mr. Sultan

349 THESIS WORKSHOP

This seminar involves the doing—though not necessarily the completion—of a scholarly-critical project in literature on a professional level. The entire process from initial formulation to final presentation will be considered in the context of the specific individual projects of students in the group. A prerequisite is active commitment to and involvement in such a project. While intended primarily for graduate students in English, undergraduates with appropriate projects—honors theses, for example—from English and allied disciplines may be accepted by permission.
Mr. Beard

350 MASTER'S THESIS

Prerequisite: permission of chairman or director of graduate studies
Staff

351 READING COURSE FOR MASTER'S THESIS

Normally, only students writing theses in linguistics may take this course. Prerequisite: permission of department chair or director of graduate studies.
Staff

388 GRADUATE DIRECTED READINGS

This course may be elected to pursue in depth a topic other than that chosen for the master's thesis. Prerequisite: permission of instructor and department chair or director of graduate studies. Offered for variable credit.
Staff

COMPARATIVE LITERATURE

A student may count any of the courses listed under Comparative Literature toward the English major. In all cases, such electives must be approved by the student's adviser in the English Department as being meaningfully related to the student's overall program of English studies. The four core courses of the Comparative Literature Program—Comparative Literature 110, 230, 240, 251—are especially recommended.

THEATER ARTS

The following courses in theater arts may be taken for credit toward the English major.

10 HOW DOES A PLAY WORK? CRITICAL ANALYSIS AND WRITING

Refer to course description under Theater Arts.
Mr. Schroeder

185 TENNESSEE WILLIAMS

Refer to course description under Theater Arts.
Mr. Schroeder

Environmental Affairs

PARTICIPATING FACULTY

Harry E. Schwarz, B.C.E., Program Director, Professor of Environmental Affairs
Leonard Berry, Ph.D., Professor of Geography
Roger E. Kasperson, Ph.D., Professor of Government and Geography
Robert W. Kates, Ph.D., Professor of Geography and Research Professor
John Reynolds, Ph.D., M.P.H., Professor of Microbiology
Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology
Richard B. Ford, Ph.D., Associate Professor of Comparative History
Christoph Hohenemser, Ph.D., Associate Professor of Physics
Alan A. Jones, Ph.D., Associate Professor of Chemistry
Laurence A. Lewis, Ph.D., Associate Professor of Geography
Frank Puffer, Ph.D., Associate Professor of Economics
Dennis W. Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Adjunct in Geography
Kirsten Johnson, Ph.D., Assistant Professor of Geography
Paul A. Erickson, M.A., Assistant Professor of Environmental Affairs (Affiliate)

PROGRAM

This program was developed in response to the challenge of the period of change being experienced in relations between people and their environment. New relations require new concepts and re-evaluated views of existing ones. Thus, a new field of professional endeavor is evolving to deal with people and their environment. The purpose of this program is to train students for entry-level professional positions in the expanding fields of environmental planning, management, and education. The terminal point of the program is the attainment of the degree of master of arts in environmental affairs. The baccalaureate degree is incidental to the program, serving as the proof of attainment in a traditional discipline.

Within the program, concentrations are offered in environmental planning on the regional or urban level for land, water, and air, in environmental monitoring and environmental education. The program is flexible in order to accommodate changes in the field and to remain relevant in this dynamic world.

The Environmental Affairs Program offers a student substantive knowledge in an academic discipline, a group of undergraduate courses covering the concepts and tools necessary for working on environmental problems, an internship in an environmental agency, a one-year graduate program involving advanced courses in specialized areas, seminars, and a practicum in which the student develops a terminal project or thesis. Both academic and practical experiences make up the Environmental Affairs Program of study.

A central feature of the program is the relationship between student and adviser. By limiting the number of students admitted, close student-adviser relationships are maintained. In this way, the program can be tailored to the individual student's needs through the selection of undergraduate courses, which develop a student's disciplinary training while providing a strong foundation on environmental issues.

Where listed courses at Clark do not meet a student's full needs, Consortium courses, special projects, and directed readings provide the necessary additional training. A full summer internship is recommended immediately after completion of the baccalaureate degree and before the commencement of graduate work, but the program permits the internship at other periods, such as during the senior year or within the graduate-training span. In the two-year undergraduate part of the program, students are expected to take courses in a chosen discipline and environmental program-oriented courses to complete their baccalaureate requirements. Ten courses are required for graduate credit.

ADMISSION

Because the program is a three-year combined B.A./M.A. program, students normally are admitted at the end of their sophomore or the beginning of their junior year. A small number of graduate students are admitted to the program if their admission adds to the student body a range of backgrounds not available from within. However, those entering the program with a bachelor's degree normally require at least one and one half years of study to complete the necessary course work.

In order to maintain a close student-faculty relationship, admission to the program is limited to approximately 15 students per year. Selection of persons for admission is based upon an evaluation of the applicant's previous academic record and work experience, plus an interview with the admissions committee. In those cases where the interview requirement would impose an extreme hardship upon the applicant, a mutually satisfactory alternative may be possible.

Students applying for admission at the junior level are expected to have a cumulative average of about B—or higher and to have satisfactorily completed at least four courses in the sciences of which at least one each should be in biology and the physical and social sciences. Individual exceptions are possible if competence can be demonstrated in an alternative way. Seniors may be accepted on an individual basis with additional requirements based on the program objective and past experience of the student. Deficiencies may be made up by summer courses prior to entering the program or for one course only by concurrent registration in the junior year.

Since admission to the program is highly restricted, interested students are urged to apply as early as possible to the program director for a determination of their eligibility.

UNDERGRADUATE PROGRAM

The undergraduate portion of the Environmental Affairs Program emphasizes the acquisition of the tools and concepts students need as a base from which to develop their knowledge and skills in environmental affairs. Two options are available to students in their undergraduate years. One, the preferred, is to satisfy a departmental major and an environmental minor and so receive a bachelor of arts degree in a traditional discipline. The other is to receive a bachelor of arts with a concentration in environmental affairs and in a related field such as biology; chemistry; geography; government; management, psychology; sociology; or science, technology and society. The specific requirements for each of these options are:

Option 1

This leads to a bachelor of arts degree in any discipline with an environmental minor. The student must fulfill the requirements of a major in an established discipline and complete five course credits in environmental affairs, including the following:

	Credit
EA201, Applications of Systems Analysis to Environmental Problems	1/2
EA202, The Biosphere	1/2
EA203, Man's Perception of His Environment	1/2
EA204, Environmental Plans and Programs	1/2

Individual course substitutions may be made with the approval of the program director. During the senior year, students must take at least two courses accepted on the graduate level, if they plan to complete graduate work in one year.

Option 2
This leads to a bachelor of arts degree with concentration in environmental affairs. This program jointly designed by the student and the adviser must be approved by the dean of the college. This program must include EA 201, 202, 203, 204 (four 1/2 courses), EA 250 (one double strength course), two other EA courses, eight course credits in one field, such as biology; chemistry; geography; government; management; psychology; sociology; or science, technology and society that provide basic skills or are related to environmental problems, and two courses in fields other than the area of concentration related to the environment. Individual course substitutions may be made with the approval of the program director. During the senior year, students must take at least two courses acceptable on the graduate level if they plan to complete graduate work in one year.

GRADUATE PROGRAM

Admission: Students who have been enrolled in the program as undergraduates will continue in the graduate phase if they meet the standards of the Graduate School and pass a review of their progress by the Environmental Affairs Program Admissions Committee. A student entering the program with a bachelor's degree is accepted only if the Environmental Affairs Admissions Committee determines not only that the student is capable of doing the work, but also that the student's admission will further the goals of the program.

Internship: An internship of at least two months' duration in an agency or firm in which the intern works on an environmental problem or equivalent practical experience, is required. The internship normally will be accomplished during the summer following the baccalaureate. Students will be assigned to internships or can find a position by themselves if such a position is approved by the director of the program.

Course Work: A course program of ten courses is required, eight courses if the student took two courses acceptable at the graduate level in the senior year. This course program will be agreed upon jointly by the student and adviser and will be directed towards a specific focus, such as water or air pollution, planning, monitoring, or any other specific topic. One course credit for research or practical work on the thesis or terminal project and one for writing the thesis or project (EA 350) are a required part of the course program. Students entering the program at the graduate level may be required to take additional courses as needed to fill gaps in their undergraduate preparation.

Teaching and Research Prerequisite: Some teaching and research at Clark is prerequisite to the M.A. degree. Every effort is made to provide on- and off-campus training activity at the teaching and research level.

Master's Project: This can be a terminal project, i.e., the solution to a specific problem or a thesis on a research topic. In either case, it must relate to the student's specific course focus, and its topic and outline must be approved by the director of the program.

Financial Aid: Several tuition remission scholarships are available for qualified applicants.

COURSES

013 FIELD STUDIES OF ENVIRONMENTAL ISSUES

Refer to course description under Geography 013. Also listed for credit as Science, Technology and Society 013.
Mr. Kates

101 INTRODUCTORY CASE STUDIES

Refer to course description under Science, Technology and Society 101.
Mr. Hohenemser, Mr. Schwarz, Mr. Ducsik

109 MICROBIOLOGY

Refer to course description under Biology 109.
Mr. Reynolds

116F COMPUTER SIMULATION OF SOCIAL AND ECOLOGICAL SYSTEMS

Refer to course description under Science, Technology and Society 116F. Also listed for credit as Math 116F.
Mr. Gould

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT

Refer to course description under Economics 155.
Mr. Shakow

201 APPLICATION OF SYSTEMS ANALYSES TO ENVIRONMENTAL PROBLEMS

This course will discuss the fundamental concepts of system analyses and their application to environmental problems. Stress will be on the use, applicability, and limitations of this method in analyzing complex environmental systems and their physical, social, and economic aspects. Prerequisite: admission to Environmental Affairs Program or permisssion of instructor. Offered as a half course, first half of semester. Also listed for credit as International Development 201.
Mr. Schwarz

202 THE BIOSPHERE

Building on a foundation of general knowledge of physiology, genetics, taxonomy, and ecology, the course will provide a biological context and perspective for the analyses and assessment of man-made environmental hazards. Prerequisite: introductory course in biological science or concurrent registration in such course with permission of instructor. Offered as a half course, second half of semester. Also listed for credit as International Development 202.
Staff

203 MAN'S PERCEPTION OF HIS ENVIRONMENT

This is an introduction to the study of environmental behavior, examining man's reactions to environmental changes and natural and man-made hazards. Offered as a half course, first half of semester. Also listed for credit as International Development 203.

Staff

204 ENVIRONMENTAL PLANS AND PROGRAMS

This is an overview of the planning process with special emphasis on plans and programs in the New England region. Current plans and programs are examined and their logic and history discussed. Offered as a half course, second half of semester. Also listed for credit as International Development 204.

Mr. Schwarz

205 READINGS IN ENVIRONMENTAL AFFAIRS

The course consists of directed readings for undergraduates in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.

Staff

206 RESEARCH IN ENVIRONMENTAL AFFAIRS

The course consists of special research projects for undergraduates in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.

Staff

210 ENVIRONMENTAL PROTECTION

This is a free-wheeling discussion of pollution control in the real world, its legal, institutional, and political framework. Federal, state, and local laws and their scientific basis; agency practice and procedure; public litigation and private "citizen suits"; selecting theories and remedies, both civil and criminal; tactics and strategies; citizen "watchdog" groups; corporate and media responsibility; economy versus ecology; old tools, new tools, potential for change. The course includes reading in multilithed materials—statutes, regulations, court documents, case decisions, news accounts, and journal articles. There will be informal student advocacy panels to assure balanced presentation of issues.

Staff

216 ENVIRONMENTAL IMPACT ASSESSMENT

This course will deal with impact assessment under the National Environmental Policy Act of 1969 (NEPA). Focus will be on the analysis and evaluation of impacts on Federal programs and projects on interrelated physical and social components and dynamics of the human environment. Methodological as well as conceptual requisites for the interdisciplinary analysis and evaluation of impacts will be discussed. Special emphasis will be given to the management of the assessment team as a key factor in meeting the environmental goals of impact assessment under NEPA. Relevant case studies will be selected from a wide variety of domestic and international programs and projects.

Staff

217 SOCIOENVIRONMENTAL IMPACT ANALYSES

Refer to course description under Geography 210.
Ms. Johnson

219 SYSTEMS ANALYSIS AND SIMULATION

This course applies the methodology of systems analysis to societal problems related to resource management, climate and society, and limits to growth. The overall goal is to develop paradigms for understanding the dynamic behavior of social systems. Important concepts and techniques discussed include classifications of systems and models, feedback control, system structure and dynamics, simple difference equations, stability and equilibrium, policy analysis, and a survey of various deterministic and probabilistic methodologies. Students design, simulate, and analyze their own computer models using DYNAMO and BASIC. There are no formal prerequisites but some background in mathematics and computer programming is desirable. Also listed for credit as Science, Technology and Society 219 and Geography 277.
Mr. Gould, Mr. Schwarz

221 APPLIED SURFACE WATER HYDROLOGY

The course will focus on practical applications of hydrology for water resources management. Topics such as flood plain analyses, frequency analyses, and reservoir operation will be covered in detail following a quick review of the field. Prerequisite: Geography 014 or permission of instructor. Also listed for credit as Geography 221.
Mr. Schwarz

222 SEMINAR IN RIVER BASIN PLANNING

This course will concentrate on one river basin and the studies made and plans prepared to develop this river basin. Readings, discussions, and research will focus on the change over time of study objectives, techniques, and results and relate them to the appropriate economic and social values. Also listed for credit as Geography 214.
Mr. Schwarz

226 TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT

For advanced students, this is an introduction to the theory and methods of risk assessment and management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation. Also listed for credit as Geography 226 and Science, Technology and Society 226.
Mr. Kates

231 SEMINAR: POLITICS AND THE ENVIRONMENT

Refer to course description under Geography 231. Also listed for credit as Government 231.
Mr. Kasperson

232 SELECTED TOPICS IN MICROBIOLOGY AND PUBLIC HEALTH

Refer to course description under Biology 232.
Mr. Reynolds

238 ISSUES IN PUBLIC HEALTH

Refer to course description under Biology 238. Also listed for credit as Science, Technology and Society 238.
Mr. Reynolds

239 BIOLOGICAL AND HEALTH ASPECTS OF WATER POLLUTION

Refer to course description under Biology 239. Also listed for credit as Science, Technology and Society 239.
Mr. Reynolds

250 PRACTICAL PROBLEMS IN ENVIRONMENTAL AFFAIRS

This is a work-study course. The student will work four full (eight-hour) days in an environmental agency in the Worcester-Boston area or spend equivalent time on a project at the University. Also, weekly seminars at the University will review and evaluate work experiences. Grades will be awarded on the basis of the student's accomplishment in internship posts and seminars. This course does not substitute for required program internship. Prerequisite: permission of instructor. Offered as a double course.
Staff

251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT

Refer to course description under Geography 251. Also listed for credit as International Development 251.
Mr. Kasperson

257 THEORY OF MULTIOBJECTIVE RESOURCE EVALUATION

Refer to course description under Geography 257.
Mr. Major

275 CITIZEN PARTICIPATION

Refer to course description under Science, Technology and Society 275. Also listed for credit as Geography 275 and Government 275.
Mr. Ducsik, Mr. Kasperson

300 READINGS IN ENVIRONMENTAL AFFAIRS

The course consists of directed readings for graduate students in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Staff

301 RESEARCH IN ENVIRONMENTAL AFFAIRS

This is a special research project for graduate students in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Staff

330 PRACTICUM IN ENVIRONMENTAL AFFAIRS

Individuals or small groups of students will be working on real world problems. Emphasis in this studio course will be on practical problem solving.
Mr. Schwarz

350 THESIS IN ENVIRONMENTAL AFFAIRS
This course consists of preparation of master's thesis or master's terminal project.
Staff

357 REGIONAL WATER RESOURCES PLANNING
The process of regional resources planning is reviewed in the context of broad environmental concerns and is applied to an actual problem. Students working as a group select a region and prepare, for that area, a preliminary planning document that could be used as a guide for future detailed planning. Also offered for credit as Geography 357 and International Development 357.
Mr. Schwarz

COURSES DIRECTLY CREDITABLE IN ENVIRONMENTAL AFFAIRS

BIOLOGY 110 INTRODUCTION TO BOTANY
Refer to course description under Biology.
Mr. Ahmadjian, Mr. Johansen

BIOLOGY 117 PRINCIPLES OF ECOLOGY
Refer to course description under Biology.
Staff

CHEMISTRY 142 ENVIRONMENTAL CHEMISTRY
Refer to course description under Chemistry.
Staff

CHEMISTRY 224 ENERGY AND COAL
Refer to course description under Chemistry.
Mr. Wen

GEOGRAPHY 157 INTRODUCTION TO RESOURCE MANAGEMENT
Refer to course description under Geography.
Ms. Johnson

GEOGRAPHY 181 MAPPING FUNDAMENTALS
Refer to course description under Geography.
Mr. Steward

GEOGRAPHY 208 ENVIRONMENTAL COGNITION AND BEHAVIOR
Refer to course description under Geography.
Ms. Johnson

GEOGRAPHY 280 PLANNING ISSUES
Refer to course description under Geography.
Staff

GEOGRAPHY 281 PLANNING INTERNSHIP AND INTERNSHIP SEMINAR
Refer to course description under Geography.
Mr. Knos

GEOGRAPHY 282 PLANNING STUDIO 1: SKILLS
Refer to course description under Geography.
Staff

GEOGRAPHY 283 PLANNING STUDIO 2: PROBLEMS
Refer to course description under Geography.
Staff

GEOGRAPHY 350 NATURE, SOCIETY, AND TECHNOLOGY: THEORY OF HUMAN ENVIRONMENT
Refer to course description under Geography.
Mr. Kates

GEOGRAPHY 355 SEMINAR IN NATURAL RESOURCE THEORY
Refer to course description under Geography.
Mr. Kates.

GEOGRAPHY 358 PROFESSIONAL SEMINAR IN RESOURCE PROJECT EVALUATION
Refer to course description under Geography.
Mr. Major

Foreign Languages and Literatures

DEPARTMENT FACULTY

Walter Schatzberg, Ph.D., Professor of German, Department Chair
Karl J. R. Arndt, Ph.D., Professor of German, Emeritus
Raymond E. Barbera, Ph.D., Professor of Romance Languages
J. Richard Reid, Ph.D., Professor of Romance Languages, Emeritus
Paul F. Burke Jr., Ph.D., Associate Professor of Classics, Acting Department Chair, 1980–81
Marvin A. D'Lugo, Ph.D., Associate Professor of Spanish
Kenneth Hughes, Ph.D., Associate Professor of German
Hartmut Kaiser, Ph.D., Associate Professor of German
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French
J. Fannin King, M.A., Associate Professor of Romance Languages, Emeritus
Michael K. Spingler, Ph.D., Associate Professor of French
William Ferguson, Ph.D., Assistant Professor of Spanish
Barbara R. Woshinsky, Ph.D., Visiting Assistant Professor of French
Leo Ortiz-Minique, M.A., Visiting Instructor of Spanish
Elana Ashley, Ph.D., Lecturer in Hebrew Language and Literature
Jutta Bernstein, Ph.D., Lecturer in German
Gale H. Nigrosh, M.A.T., M.A., Lecturer in French and Linguistics
Catherine Q. Spingler, M.A., Lecturer in French

UNDERGRADUATE PROGRAM

The Major in Foreign Languages and Literatures

The major in foreign languages and literatures concentrates particularly on the way in which nations may express the consciousness of their culture through literature and other arts. The interdisciplinary and humanistic spirit of the program encourages the student to relate studies in literature to other areas of the humanities and social sciences such as history, philosophy, fine arts, geography, psychology, and sociology in order to arrive at an understanding of the cultural traditions of other nations.

Requirements

1) No fewer than eight courses beyond the intermediate level in one or more foreign languages.
2) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with a faculty adviser.
3) If the major program is concentrated in one language, a reading knowledge of a second language is recommended.
4) At least one course in linguistics is recommended.

The department does not require the student to follow a rigid sequence of courses, yet the nature of language study clearly indicates a basic progression, which the typical student might follow.

Essentially, departmental offerings for the foreign language major may be organized in the following groups:

1) Skill-oriented courses including conversation, composition, translation (11, 12, 100s)
2) Cross-cultural courses and courses focusing on literature and the fine arts including films and theater (100s)
3) Courses in literature which concentrate on particular themes, theories, problems, critical approaches (100s, 200s)
4) Courses in major figures, literary history, the styles of particular historical periods, and surveys of literature (100s, 200s)

These groupings are not mutually exclusive and, in the case of group two, some courses in film and theater could be considered to share some of the goals of a conversation or composition course but on a more advanced level. Similarly, it would not be possible to address oneself to the study of a style, say that of the Baroque, without pursuing questions of critical approaches and literary theory. However, the grouping is meant to assist the student by suggesting ways of organizing his/her progress within the major, beginning with the mastering of language skills and critical methods, and then proceeding to the application of those skills and methods to particular cultural and literary areas.

The Major in Comparative Literature

The major in Comparative Literature is intended for the student inclined toward studies in the field of foreign literatures, but whose interest lies beyond the scope of any one national literature, period, or genre. The major will afford this student the opportunity of combining related trends, movements, and other literary developments into a program that reflects the broadest possible frame in which to pursue the study of literature.

Requirements

1) No fewer than five courses taken beyond the intermediate level in one or more foreign languages. (An intermediate level course in a second foreign language may be used in certain cases toward the fulfillment of the language course requirement.)
2) Suggested sequence of core courses in Comparative Literature:
    a) Ideally, the student should have taken Problems in Comparative

Literature (CMLT 110) or a similar introductory comparative literature course by the end of the sophomore year.

b) By the end of the junior year, the student should have completed at least two of the following genre courses: Elements of Drama (CMLT 230), Studies in Narrative Form (CMLT 240), or English Poetry (English 13). In certain cases, the sequence of courses might be altered according to the particular direction of studies determined by the student and the adviser.

c) While a student may wish to devote his/her senior year to a number of tutorials, autonomous projects, and related courses, those students interested in advanced study of literary theory are encouraged to take the Seminar on Literary Theory and Practice (CMLT 251).

3) A number of related courses varying from five to eight, depending on the student's range of interests, are to be selected by the student in consultation with a faculty adviser.

The Advisory System

Since the department believes that individual courses will assume relevance only in the context of a total program which will have sufficient flexibility to take the student's intellectual biography into account, it emphasizes strongly the close association between student and faculty advisers. The basic role of the adviser is to work closely with the student to ensure that the program developed will enhance and reflect the student's scholarly growth.

Although all members of the department serve as faculty advisers, the following have been designated as advisers in the major areas of concentration offered by the department:

Comparative Literature—Mr. Hughes
French—Mr. Spingler
German—Mr. Kaiser
Hebrew—Ms. Ashley
Spanish—Mr. D'Lugo

Students are encouraged to develop a foreign languages program involving two or more languages. To discuss this possibility as well as to plan career goals and options, contact Mr. Schatzberg.

UNDERGRADUATE-GRADUATE PROGRAM: THE B.A./M.A. PROGRAM IN COMPARATIVE LITERATURE

The B.A./M.A. Program in Comparative Literature is a course of studies integrating the last two undergraduate years with the first year of graduate work. It permits and requires careful planning and coordination of course work, independent study, and research, and the preparation of a master's thesis over a three-year period beginning with the junior year. The program, which is described in greater detail elsewhere in this catalog, is currently in its seventh year of operation. It involves as many as 10 faculty members and 20 to 25 students who have a demonstrated interest in literature and literary criticism. For further information concerning the program's admission standards, requirements, methodology, and goals, contact Mr. Hughes. (See listings under Comparative Literature.)

COURSES

- A. French
- B. German
- C. Hebrew
- D. Russian
- E. Spanish

A. FRENCH

French 11 ELEMENTARY FRENCH

This course is designed for two types of students: those with no background in French and those with some previous exposure to the language who are not yet prepared to enter the intermediate course. Students work on all four language skills (listening, speaking, reading, writing) with the aim of developing an active knowledge of French. Individual work will be done in the language laboratory. Indivisible course.
Ms. Nigrosh, Ms. Spingler, Staff

French 12 INTERMEDIATE FRENCH

This is a review of French grammar with emphasis on writing and speaking. There will be reading and discussion of provocative works in journalism, fiction, theater, and poetry to acquaint students with significant personalities and ideas in French life. Also included are group projects on cross-cultural themes in class and individual work in the language laboratory. Prerequisite: French 11 or equivalent background, to be determined by instructor. Divisible course.
Ms. Nigrosh, Ms. Spingler, Staff

French 106 SPECIAL TOPICS IN FRENCH

Offered for variable credit.
Staff

French 127 SPEAKING FRENCH: INTERMEDIATE LEVEL

The goal of this course is to increase the oral fluency of the student by providing conversational situations of widely varied natures. Tapes in the language laboratory will be assigned to help increase oral comprehension and accuracy of pronunciation. Prerequisite: French 12.
Mr. King

French 129 SKILLS AND TECHNIQUES IN READING FRENCH

This course provides a transition from speaking to reading with ease and understanding for the student who has the fundamentals of the French language. Starting with easy contemporary French (a novel of Georges Simenon), the class progresses through a brief experience with French poetry to the somewhat more difficult French of Jean-Paul Sartre in two of his plays (*Huis-clos* and *Les Mouches*). A textbook helps increase vocabulary, understanding of French syntax and idiomatic structure, and other reading skills. Close attention is given in class to the precise meaning of words, phrases, verb tenses, etc. Prerequisite: French 12, or equivalent skill in the language to be determined by consultation with professors.
Mr. King

French 130 READINGS IN FRENCH LITERATURE

This course is logical in sequence to French 129, but not requiring French 129 as prerequisite. There is continued close attention to vocabulary, idioms, sentence structure, and exact meaning of phrases and sentences. Increased attention is given to artistic effects and stylistic values. Readings: Simenon; Anouilh, *Antigone;* and a selection of twentieth-century works. Prerequisite: French 129, 131, or equivalent.
Mr. King

French 131 READINGS IN FRENCH

This course is designed for students at the third-year level who wish to enhance their skills in reading, writing, understanding, and speaking French. Modern French texts will be chosen for their intrinsic interest and for their linguistic accessibility. There will be class discussions in French. Prerequisite: second semester of French 12, or permission of instructor.
Mr. Spingler

French 132 READINGS IN FRENCH LITERATURE: CONTEMPORARY TOPICS

This course, basically a continuation of French 131, introduces the student to the study of the ways literature may reflect a nation's cultural and intellectual life. The course will emphasize the literary life in France between the two world wars. The student will be given an introductory look at some of the movements that have characterized French culture in the twentieth century, such as surrealism and existentialism. The course's purpose is to provide the student with a basis for literary and cross-cultural studies to be pursued at an advanced level in subsequent courses. Readings will be selected from the works of Gide, Cocteau, Sartre, Camus, Anouilh, and others. There also will be some films chosen to complement the study of the literature. Conducted in French. Prerequisite: French 129 or higher level course, or consent of the instructor.
Mr. Spingler

French 137 ORAL FRENCH

The aim of this third-year course is to perfect skills in spoken communication. In this semester of a two-semester course, particular attention is given to the sounds of French and to its rhythm and melodic patterns. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the language laboratory. Prerequisite: Grade of B or higher in French 12, or equivalent skill in the language, to be determined by a placement test; permission of instructor.
Mr. King

French 138 ORAL AND WRITTEN FRENCH

The aim of this third-year level course is to perfect skills in oral and written communication. This course is intended as a sequel to French 137 but does not require French 137 as prerequisite. In this semester, increasing attention is given to grammatical patterns and written French as well as fluency in the spoken language. Conducted in French. Meets twice a week for two hours plus three half-hour periods in the language laboratory. Prerequisite: Grade of B or higher in French 12, or equivalent skill in the language, to be determined by a placement test; permission of instructor.
Mr. King

French 157 ASPECTS AND PROBLEMS OF CONTEMPORARY FRANCE
A cross-cultural seminar concentrating on the evolution in the twentieth century of traditional French values, myths, and social institutions. Conducted in French. Prerequisite: French 131 or above, or permission of instructor.
Ms. Kaufmann-McCall

French 158 THE FRENCH-SPEAKING WORLD
An interdisciplinary analysis of the role of the French language and the culture it represents in various parts of the world, with special emphasis on Quebec, the Antilles, and French-speaking Africa. Students will be expected to give an oral report, to be developed into a written research project, on the subject of the course as it relates to their particular discipline or area of interest. Prerequisite: French 131 or above, or permission of instructor.
Ms. Kaufmann-McCall

French 160 THE FILMS OF JEAN RENOIR
The course includes analysis of the cinematic language and aesthetic of Jean Renoir, with particular attention to the way in which they reflect French traditions, mental structures, and social values. Readings will include film scripts, film criticism, and source texts. Attendance at approximately 8–10 films will be required. Conducted in French. Prerequisite: French 130 or permission of instructor.
Mr. Spingler

French 165 FRENCH PLAY PRODUCTION
This is a course designed to provide direct experience of the theatrical synthesis within which the play and the actor operate. The course will concentrate on one playwright, studying him in terms of all the problems peculiar to the staging of his plays—particularly problems in acting styles. Much of the classwork will be devoted to the expressive vocabulary of the actor including diction, phrasing, pitch, and rhythm as well as gesture and blocking. Because of the scene work done in class, students will have ample opportunity to work on the improvement of their spoken French. Possible playwrights to be studied: Molière, Marivaux, Ionesco, Beckett. Prerequisite: speaking knowledge of French and permission of instructor. Conducted in French.
Mr. Spingler

French 175 SARTRE AND CAMUS
This is a study of major literary works by Sartre and Camus in the context of each writer's philosophical and political theories. Conducted in French. Prerequisite: French 131 or above, or permission of instructor.
Ms. Kaufmann-McCall

French 177 ESSAYS OF THE SELF
This course is a study of modes of subjectivity in the French tradition through seminal works of self-analysis and autobiography. We will explore the relationships between self-expression, self-creation, and philosophy. Texts will include Montaigne, *Essais;* Pascal, *Pensées;* Rousseau, *Les Confessions;* Baudelaire, *Mon coeur Mis à Nu;* Sartre, *Les Mots;* Hélène Cixous, *La Venue à l'Ecriture*. Students will be asked to keep a journal of

their readings. Conducted in French. Prerequisite: one third-year level course, or permission of instructor.
Ms. Kaufmann-McCall

French 201 WOMEN IN THE MALE LITERARY IMAGINATION
Through the historical examination of a tradition central in shaping our notions of women, we will try to come to an understanding of the roles of women in the male imagination, and how these roles have affected women's fantasies and realities. Readings will include *Tristan et Iseut, La Nouvelle Héloise, Les Liaisons Dangereuses, Madame Bovary, Une Vie, Nadja, Jules et Jim,* with reference throughout the course to relevant historical and theoretical texts. Conducted in French. Prerequisite: permission of instructor.
Ms. Kaufmann-McCall

French 202 WOMEN WRITERS
Through the fictional, autobiographical, and theoretical texts of twentieth-century women writers in France, we will explore the ways in which each writer's sense of herself and her culture is inscribed in her writing. Readings will include Colette, *Le Blé en Herbe, La Vagabonde;* Simone de Beauvoir, *Le Deuxième Sexe, La Femme Rompue, Une Mort Très Douce;* Marguerite Duras, *Hiroshima, Mon Amour;* Christiane Rochefort, *Le Repos du Guerrier;* Hélène Cixous, *Le Rire de la Méduse.* Prerequisite: French 131 or above, or permission of instructor.
Ms. Kaufmann-McCall

French 206 SPECIAL TOPICS IN FRENCH
Offered for variable credit.
Staff

French 208 TEACHING LAB IN FRENCH
A teaching apprenticeship experience is offered to graduate students and to exceptional undergraduates who have demonstrated potential capability in this area. The teaching apprentice, under the supervision of the regular course instructor, is gradually exposed to all the aspects involved in teaching a foreign language course (planning and organization, preparation, presentation, evaluation) and is encouraged to become a coteacher to the greatest extent possible.
Staff

French 241 GENERAL VIEW OF FRENCH LITERATURE, CHARLEMAGNE TO LOUIS XIV
The course covers the period from the Middle Ages through the Age of Louis XIV. It involves an interpretation of the main currents of French literature from the *Chanson de Roland* through the period of the great classicists of the seventeenth century. Each period is studied concentrating on a limited number of authors or schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Prerequisite: Grade of B or higher in a third-year course.
Mr. King

French 242 GENERAL VIEW OF FRENCH LITERATURE, VOLTAIRE TO PROUST

The course studies the period from the beginning of the Age of Enlightenment to the early twentieth century. It involves an interpretation of the main currents of French literature between the Age of Louis XIV and the First World War. Each period is studied concentrating on a limited number of authors or schools so as to best represent the characteristics of the period, social and philosophic as well as literary. Conducted in French. Prerequisite: Grade of B—or higher in a third-year course.
Mr. King

French 251 MASTERPIECES OF EARLY FRENCH LITERATURE

An in-depth study of outstanding French literary masterpieces written before 1600. Particular attention will be given—in the medieval period—to the *Chanson de Roland* and the *Roman de Tristan et Iseut;* in the Renaissance—Rabelais's *Gargantua et Pantagruel* and other narrative writers including Marguerite de Navarre, Bonaventure des Périers, and Noël du Fail.
Mr. King

French 254 RENAISSANCE POETRY AND PROSE

Poetry of the sixteenth century, principally Ronsard and Du Bellay, but including a look at their predecessors, François Villon, Marot, and poets of the School of Lyons and the poets who followed them, Du Bartas, D'Aubigné, and the poets of the baroque. Prose to be studied will be principally the work of Rabelais and Montaigne with a view of the works of other writers (Marguerite de Navarre, Des Périers, Jean Calvin). Conducted in French.
Mr. King

French 255 THE MODERN FRENCH THEATER

This is a study of the origins and development of *le théâtre nouveau* with emphasis on dramaturgy and *mise en scène.* The focus of the course is upon the theater since 1950 especially Ionesco, Beckett, Genêt, and Arrabal, but the course also explores the affinities between these playwrights and the Dada and Surrealist movements and studies three precursors: Jarry, Ghelderode, and Artaud. Conducted in French.
Mr. Spingler

French 258 EXPERIMENTS IN SELF-CONSCIOUS NARRATIVE: NOVEL AND AUTOBIOGRAPHY

This is a study of contemporary French prose from the point of view of the author's self-affirmation through narrative. The problem of a possibly blurred division between fact and fiction, history and myth, will be explored through a study of novels and autobiographies of Gide, Sartre, Genet, Beckett, Michel Leiris, and Henri Michaux. Conducted in French.
Mr. Spingler

French 261 SENIOR TUTORIAL FOR MAJORS

A program of extensive readings and tutorial meetings is designed to provide students with a broad view of the whole of French literature. The readings will be planned individually for each student in order to complement previous course work.
Staff

French 270 THE EXPERIENCE OF POETRY
Given in French, this course will attempt, through lecture-discussions, readings and *explications de texte,* to clarify the poetic experience. (What is poetry? How is the poetic experience produced? How is it communicated?) After a preliminary study of French prosody (structure, meter, rhyme, technical effects, and so forth), French poetry of all periods (eleventh to twentieth centuries) and all genres (lyric, dramatic, epic, didactic, etc.) will serve as the material on which to base the study of the basic problem of the course as stated above. Prerequisite: permission of instructor. Conducted in French.
Mr. King

French 275 CLASSICISM AND ROMANTICISM
An examination of two major psychological and literary styles using principally French masterworks of the seventeenth and nineteenth centuries as examples for study. Classicism will be studied by close readings of plays by Corneille, Molière, and Racine, with some additional attention to other seventeenth-century genres. Romanticism will be studied by a brief examination of eighteenth-century divergence from Classicism, principally in the works of Jean-Jacques Rousseau, followed by detailed study of dramatists and poets between 1820 and 1860. Conducted in French.
Mr. King

B. GERMAN

German 11 INTRODUCTORY GERMAN
This course is designed to impart an active command of the German language. It combines the study of grammar with oral practice and readings in literary and expository prose. Indivisible course.
Mr. Kaiser/Ms. Bernstein
Mr. Schatzberg/Mr. Hughes

German 12 INTERMEDIATE GERMAN
This is a review of German grammar. There will be reading and discussion of selections adapted from German-language newspapers and magazines. Significant works in prose and drama will be studied to acquaint students with outstanding writers and ideas in German literature and culture. Individual work in the language laboratory and weekly written assignments. Prerequisite: German 11, or equivalent background in the language.
Mr. Kaiser, Ms. Bernstein

German 106 SPECIAL TOPICS IN GERMAN
Offered for variable credit.
Staff

German 127 DRAMATIC EXPRESSION IN GERMAN
This course provides the more advanced student of the language with the opportunity to refine and practice the habits of gesticulation, intonation, and rhythm of contemporary spoken German. Under close supervision, the class studies and learns one or more contemporary plays with a view to eventual production or dramatic reading of the piece(s). Emphasis is placed on pronunciation, gesture, and the development of those intonational refinements appropriate to the interpersonal situations of the texts studied. Although discussion of the dramatic works as literature clearly is

necessary, it should be noted that the course is essentially an advanced language course. Active participation of all students is required. Examination consists of the presentation of a dramatic passage, which the student has prepared outside of class. Prerequisite: German 12 or equivalent.
Mr. Hughes

German 128 SPOKEN AND WRITTEN GERMAN
This third-year course aims at strengthening good speech habits with regard to German grammar and syntax, at expanding the active vocabulary, and at improving students' ability to express themselves in writing. Literary and journalistic texts will serve as a basis for discussion of important issues in contemporary German. Weekly written assignments. Recommended for majors. Prerequisite: German 12, or equivalent.
Ms. Bernstein

German 130 MODERN GERMAN PROSE
This course is designed to familiarize the student with prose—from West and East Germany—by Kafka, Hesse, Mann, Böll, Grass, Plenzdorf, and Wolf; includes discussions, oral and short written reports in German.
Ms. Bernstein

German 134 WORKSHOP IN TRANSLATION
The object of this course is to give students a practical, concrete experience of what it means to "translate" from one language into another. The student will see that the process is not nearly so simple as it may have seemed, but that there is a scale of texts which range from the relatively easy to those that virtually defy rendering into another tongue. In the more difficult cases, it will be demonstrated that there is no such thing as a mere rendering of a text into another language, but that the process in, say, poetry, requires transposition of a whole cultural reflex into another. Various kinds of texts will be examined, from the sober style of the scientific article to the emotionally charged language of lyric poetry.
Staff

German 138 MODERN GERMAN DRAMA
This course is designed to familiarize the student with plays by Brecht, Frisch, Dürrenmatt, Weiss, Hochhuth, Walser, Dorst, and Handke; includes discussions, oral and short written reports in German.
Mr. Kaiser

German 142 GERMAN ROMANTICISM
This is an analysis of German romanticism from its beginning in the 1790s to its decline in the 1830s, aesthetic credos, lyric poetry, the drama, major prose works (among them, the fairy tale as an art form) will be discussed in their relation to the intellectual history of the period. Authors include the Schlegel brothers, Hölderlin, Novalis, Tieck, Wackenroder, Kleist, Brentano, E. T. A. Hoffmann, Eichendorff, and Heine. Prerequisite: German 12 or equivalent.
Mr. Schatzberg

German 145 THE GERMAN NOVELLE
The course is a historical and critical study of this uniquely German genre. Particular attention will be paid to narrative technique and to the typical features of the novelle distinguishing it from the short story on the one

hand and from the novel on the other. Selections range from early romanticism to Thomas Mann. Where applicable, a number of poems by the author under consideration will be discussed. Prerequisite: German 12 or equivalent.
Mr. Kaiser

German 150 MODERN GERMAN CINEMA
A study of selected films of three contemporary German film directors, Werner Herzog, Wim Wenders, and Volker Schlöndorff. The goal of the course will be to examine the cinematic technique and world view unique to each director as well as German-American cultural cross currents and relevant social issues as represented in the films under consideration. Also listed for credit as Comparative Literature 150.
Mr. Schatzberg

German 166 GERMAN DRAMA FROM LESSING TO EXPRESSIONISM
The course includes reading and discussion of representative plays by the chief German dramatists from the end of the eighteenth to the early twentieth century. The course will focus on the sociopolitical aspects of these works, the aims and concepts of the dramatic art, and the changing traditions of playwriting. Authors include Lessing, Goethe, Schiller, Kleist, Grillparzer, Büchner, Hebbel, Hauptmann, Schnitzler, and Kaiser. Prerequisite: German 12 or extivalent.
Mr. Kaiser

German 190 GOETHE
This is a study of Goethe's work as poet and thinker through selected readings of his poetry, plays, prose, and critical essays on art and science. Prerequisite: permission of instructor. Conducted in German.
Mr. Schatzberg

German 192 SCHILLER AND KLEIST
This is a study of major literary works of Schiller (drama, poetry) and Kleist (drama, narrative prose). The works will be considered in terms of the historical epoch in which they were written. Discussion will focus on structural, moral, sociopolitical, and existential aspects. Conducted in German. Prerequisite: German 12, or equivalent.
Mr. Kaiser

German 206 SPECIAL TOPICS IN GERMAN
Offered for variable credit.
Staff

GERMAN LITERATURE COURSES CONDUCTED IN ENGLISH

German 116 HESSE, KAFKA, MANN
A study of selected works including Hesse's *The Glass Bead Game,* Kafka's *The Trial* and *The Castle* and Thomas Mann's *The Magic Mountain.* The focus of the course will be on developing interpretations of individual works and contrasting the authors' literary techniques and world views. Also listed for credit as Comparative Literature 116.
Mr. Schatzberg

German 135 THE MODERN GERMAN NOVEL
The course reviews selected works of Günter Grass, Hermann Broch, Thomas Mann, Heinrich Böll, Max Frisch, and other writers from the German language areas of East and West Germany, Austria, and Switzerland. Emphasis is not so much on the development of the twentieth-century novel as it is on understanding each of the works in its historical, social, and conventional context. This course, which is conducted in English, is also available for credit in German. Those choosing this option will read several of the works in German and meet in extra sessions where the work will be discussed in German. Also listed for credit as Comparative Literature 135.
Mr. Hughes

German 168 MUSIC IN GERMAN LITERATURE AND THOUGHT
Countless musicians, philosophers, and writers have speculated on the nature of music, its mysterious power to influence people and communicate strong feelings. This course will be devoted to reading and discussion of works by the following authors from the German-speaking countries of the nineteenth and twentieth centuries: Wackenroder, Novalis, Kleist, Schopenhauer, E. T. A. Hoffmann, Goethe, Grillparzer, Heine, Mörike, Wagner, Nietzsche, Hesse, and Thomas Mann. The approach will be predominantly thematic; however, several works will be studied which reveal the author's successful attempts to employ musical devices and structures in his literary creations. Also listed for credit as Comparative Literature 168.
Mr. Kaiser

German 170 THOMAS MANN
This is a concentrated study of short stories and of the novels *Buddenbrooks* and *Doctor Faustus.* Mann's development is traced from his early aestheticism and cultural pessimism to his later avowal of democratic socialism and historical optimism. Discussions of Nietzsche, Schopenhauer, Wagner, and Freud will illuminate Mann's changing perspective and artistic values and will take into account some reading in the historical background of the time. Conducted in English, but available for credit in German with permission and by special arrangement. Also listed for credit as Comparative Literature 170.
Mr. Hughes

German 183 KAFKA SEMINAR
The course involves a careful study of Kafka's novels, short stories, parables, and aphorisms. Prerequisite: some familiarity with the major short stories and novels of Kafka. Also listed for credit as Comparative Literature 183.
Mr. Schatzberg

German 197 THE FAUST THEME IN LITERATURE AND MUSIC
A study of man's search for forbidden knowledge and power as represented in literature and music by the character of Faust from the Reformation to the present. The legend of the defiant necromancer who sold his soul to the devil emerged in the sixteenth century and developed into one of the great themes of Western literature. Faust is the representative of each age in which he appears. He may be a universal figure embodying the ideal man, as he does in Goethe's masterpiece; or he

may be the incarnation of the sin characteristic of an age or a nation, as he is in Thomas Mann's *Doctor Faustus.* The course will explore the changing concepts of Faust from the beginnings of the legend in German folklore to the present, concentrating on the following major treatments of the theme: *The History of the Damnable Life,* and *Deserved Death of Doctor John Faustus* (1582), Marlowe's *Dr. Faustus,* Klinger's *Faustus, His Life, Death and Doom,* Goethe's *Faust,* Part I and II, Thomas Mann's *Dr. Faustus,* Paul Valéry's *Mon Faust* and some of the operatic treatments such as Gounod's *Faust,* Berlioz's *The Damnation of Faust,* Boito's *Mefistofele,* Busoni's *Doctor Faustus.* No prerequisites. Also listed for credit as Comparative Literature 197.
Mr. Kaiser

C. HEBREW

Hebrew 11 ELEMENTARY HEBREW

Modern, conversational Hebrew. Emphasis on speaking, reading, writing, and listening skills. Acquisition of vocabulary and basic grammar through conversation, drills, reading of simple texts, and listening to tapes. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Indivisible course.
Ms. Ashley

Hebrew 12 INTERMEDIATE HEBREW

Modern, conversational Hebrew. Enrichment and reinforcement of verbal and written expression and grammatical structures. Use of graded readings, accompanied by tapes, selected newspaper articles, and simple short stories. Three class meetings a week plus one hour of drill and one hour of individual work in the language laboratory. Prerequisite: Hebrew 11 or equivalent.
Ms. Ashley

Hebrew 130/131 ADVANCED HEBREW

Readings of contemporary Hebrew prose, poetry, and drama. Emphasis is on spoken language, literary analysis, and composition. Prerequisite: Intermediate Hebrew or equivalent.
Ms. Ashley

HEBREW LITERATURE/JUDAIC STUDIES COURSES CONDUCTED IN ENGLISH

Hebrew 120 THE PROPHETS OF ISRAEL

This course will be directed toward a study of the prophets as men of thought. Emphasis will be placed upon the development of prophetic literature, the psychology of prophecy, the prophet as religiopolitical activist, and the prophet as spokesman for ethical idealism. Study will focus upon Elijah (ecstatic prophecy), First Isaiah (prophetic hope), Jeremiah (religious reformation), Ezekiel (Diaspora Judaism), Amos (the prophet as social critic), Hosea (divine love), and Micah (reflections on the future).
Mr. Davids

Hebrew 121 WISDOM LITERATURE

The wisdom literature within the Hebrew *Scriptures* represents creative interaction between the Hellenistic and Jewish worlds. This course will

focus upon the *Book of Job, Ecclesiastes, Proverbs,* and *Song of Songs.* We will explore practical as well as philosophical wisdom, with a special focus on the great issues of life raised by the authors. No prerequisites in the area of language or Bible study.
Mr. Davids

Hebrew 122 THE JEWISH LEGAL TRADITION
An English language study of the roots and development of Jewish law, including biblical legal codes, Midrash Halacha, Mishnah, Gemara, Responsa, Commentaries, Codes (with an extended look at the Mishnah Torah of Maimonides and the Shulchan Aruch), and Modern Responsa (including Solomon Freehof and Moshe Feinstein). No previous background required.
Mr. Davids

Hebrew 123 THE RABBINIC LITERARY TRADITION
An English language study of the roots and development of non-legal rabbinic narratives, including narrative strands in the Bible, Midrashic methodology, Midrash (with an extended look at sources, schools, techniques), and how medieval Jewish philosophy, mysticism, and literature constitute another mode of Midrash. Texts used will focus on ethical issues of current concern. No previous background required.
Mr. Davids

Hebrew 140 THE JEWISH MYSTICAL TRADITION
This survey of Jewish mystical thought will span the entire Rabbinic period and culminate with the rise of Hasidism in the mid-eighteenth century. Special attention will be paid to the role of Jewish mysticism as a vehicle for Jewish mythic consciousness. The Kabbalah of Spain and the innovations of the Lurianic school will be examined closely, as well as introducing the literature of the Kabbalah, most notably the *Zohar,* the Book of Illuminations. Cosmological and theological underpinnings of Hasidism will be discussed along with their impact on contemporary Jewish and non-Jewish thought.
Mr. Waldoks

Hebrew 150 CULTURE OF EASTERN EUROPEAN JEWRY
This survey of the cultural dimensions of Eastern European Jewry will span the period of close to a thousand years. The unique contributions of Eastern European Jewry (Hebraism, the Yeshivot, Yiddishism, Bundism, etc.) will be examined in their historical contexts. The *shtetl* experience, as well as the rise, of an urban proletariat in the nineteenth century will be discussed, and their links to American and Israeli Jewish life will be emphasized. Both primary and secondary texts will be employed.
Mr. Waldoks

Hebrew 185 TRENDS AND VALUES IN MODERN JEWISH LITERATURE
With the use of Yiddish and Hebrew literature in translation, this survey course will introduce the creation of modern Jewish literature in the nineteenth and twentieth centuries. Writers in the early period of this renaissance were bilingual. The pioneers of Yiddish literature (Mendele,

Sholom Aleichem, Peretz) and Hebrew literature (Ahad HaAm, Bialik, Brenner, Frishman) will be discussed.
Mr. Waldoks

D. RUSSIAN

Clark students may take additional courses in Russian language and literature at the College of the Holy Cross through the Worcester Consortium for Higher Education.

Russian 11 INTRODUCTORY RUSSIAN

This course is an introduction to the written and spoken language. It consists of three class periods and three laboratory sessions a week. Indivisible course.
Mr. Hughes

Russian 106 DIRECTED READINGS

Students interested in specific authors and/or topics in Russian literature and civilization may receive instruction and guidance in either English or Russian. Offered for variable credit.
Mr. Hughes

RUSSIAN LITERATURE COURSES CONDUCTED IN ENGLISH

Russian 185 THE RUSSIAN NOVEL IN THE NINETEENTH CENTURY

An examination of representative great Russian epics of the last century in English translation. They are considered both as works of literary art and as social and historical artifacts. Readings may vary owing to the availability of texts but will probably include Tolstoy's *Anna Karenina,* Dostoevsky's *The Brothers Karamazov,* Gogol's *Dead Souls,* Goncharov's *Oblomov* and Turgenev's *Fathers and Children.* Some reading in Russian intellectual history and in the "radical democratic" critics. Also listed for credit as Comparative Literature 185.
Mr. Hughes

Russian 187 THE RUSSIAN NOVEL IN THE TWENTIETH CENTURY

A consideration of representative Russian novels of the twentieth century—in English translation—in their historical and social context. Readings may vary depending on the availability of texts but will probably include such pro-Soviet works of "socialist realism" as Gorky's *Mother* and Sholokhov's *Quiet Flows the Don,* experimental fiction like Zamyatin's *We,* and counterrevolutionary works such as Pasternak's *Dr. Zhivago,* Bulgakov's *Master and Margarita,* and Solzhenitsyn's *Cancer Ward.* Some reading in Russian intellectual history and in the formalist and Marxist critics. Also listed for credit as Comparative Literature 187.
Mr. Hughes

E. SPANISH

Spanish 11 ELEMENTARY SPANISH

This course is for beginners or others not yet qualified to enter the intermediate courses. Students receive grounding in all four language skills (hearing, speaking, reading, writing) as preparation for subsequent courses conducted in the language. There will be three hours of class contact per week plus individual work in the language laboratory. Indivisible course.
Mr. Ferguson, Staff

Spanish 12 INTERMEDIATE SPANISH

This course offers consolidation of basic skills in the language for students who previously have completed Spanish 11 or its equivalent. First semester stresses development of oral facility in Spanish through a variety of exercises including taped interviews with native-speakers, improvisational acting in brief scenes from plays, and discussions based upon readings related to topics of Hispanic culture and society. Grammar review will be based upon the specific needs of the group. Prerequisite: Spanish 11 or equivalent skill in the language. Spring semester will include more extensive readings on themes of Hispanic culture as the basis for class discussion and essay assignments. The focus of the spring semester will be those activities in speaking, reading, and writing that provide the student with sufficient mastery of basic skills in Spanish to allow for reasonable adjustment to advanced course work in Hispanic studies.
Mr. D'Lugo

Spanish 106 SPECIAL TOPICS IN SPANISH

Variable credit; topics at the discretion of instructor.
Staff

Spanish 127 PRACTICE IN ORAL AND WRITTEN SPANISH

This is an advanced intermediate course to help students develop fluency and accuracy in the spoken and written language. Classes will stress composition and pronunciation as well as conversation practice. May be taken after the first semester of Spanish 12 with permission of the instructor.
Mr. Ferguson, Mr. Barbera, Mr. D'Lugo

Spanish 131 READINGS IN MODERN SPANISH-AMERICAN LITERATURE

Third-year level. Close examination of the principal writers and movements in the development of twentieth century Spanish-American prose. Special emphasis on the "new narrative" of Borges, Cortázar, García Márquez, Donoso, and Rulfo. Conducted in Spanish. Prerequisite: Spanish 12 or equivalent skill in the language.
Mr. Barbera

Spanish 132 INTRODUCTION TO SPANISH LITERATURE OF THE TWENTIETH CENTURY

The course offers reading and discussion of selected works from the Generation of 1898 to the contemporary period (Unamuno, Pío Baroja, García Lorca, Cela, Buero Vallejo, Sastre, Goytisolo). Emphasis is on conflictual structures within dramatic and narrative works, including selected recent Spanish films: individual vs. the group as seen particularly in the depiction of the Spanish Civil War in contemporary literature; the artist's conception of cultural continuity; the themes of modernity and change as reflected in the works of more recent writers. Conducted in Spanish.
Mr. D'Lugo

Spanish 133 HISPANIC THEMES

This is a third-year course of readings and discussions intended to introduce the student to the diversity of Hispanic culture through a close consideration and analysis of a limited number of problems as reflected in selected readings from literature, history, and cultural anthropology as

well as current periodicals in Spanish. The course will focus on one or two of the following national cultures: Chile, Cuba, Mexico, Spain, Argentina. Topics normally covered include: parallel development of Anglo-American and Hispanic cultural institutions, changing identity of the family and the individual in twentieth century society, the emerging identities of women in these societies and a comparison with the traditional Hispanic definition of women's role. Readings and discussions will be in Spanish.
Mr. Ferguson

Spanish 135 HISPANIC ETHOS AND CINEMA: THE FILMS OF LUIS BUÑUEL
Classes will consist of viewing, discussion, and analysis of the major films of Luis Buñuel in the context of the cinematic medium as well as in the broader tradition of a particular critique of Hispanic social values. The recurrent motifs of Catholicism and the church, charity, violence and sexual repression will be examined as cinematic form and substance. Particular attention will be paid to the function of the spectator as defined and manipulated by each of the Buñuel films. Readings include film scripts, film criticism, and source novels. Conducted in Spanish. Prerequisite: Spanish 131 or permission of instructor. Attendance at 10 film showings during the semester (approximately one weekly) will be required of students taking the course for credit.
Mr. D'Lugo

Spanish 136 WOMEN'S ROLE IN SPANISH LITERATURE
Selected works will be studied with a focus on the role of women in the literature of Spain throughout the centuries. Prerequisite: Spanish 12 or equivalent skill in the language.
Mr. Barbera

Spanish 137 ADVANCED ORAL AND WRITTEN SPANISH
A third-year level course, this is a rapid review of grammar and stylistic, with exercises in composition, pronunciation, and intonation. It is intended to allow the student with one or more years of advanced college work in Spanish (or equivalent) the opportunity for refinement and mastery of both written and spoken Spanish. Emphasis will be placed upon control and accuracy of expression in writing through regular compositions and translation exercises as well as work in phonetics and diction. Prerequisite: Spanish 131 and one course above that level.
Staff

Spanish 138 HISPANIC LITERATURE OF POLITICAL COMMITMENT
A study of the creative writer's position *vis-à-vis* the social and political movements of the twentieth century. Writers discussed will include Neruda, Vallejo, Hernández, and Cardenal; Cuban writers and poets in their sometimes abiguous relationship to the Revolution; the writers of the Chicano movement and the dream of Aztlán; and Puerto Rican authors both on the mainland and on their native island. The course will be conducted in English; a reading knowledge of Spanish is required. Prerequisite: Spanish 131 or permission of the instructor.
Mr. Ferguson

Spanish 140 SPANISH DRAMATIC EXPRESSION/PLAY PRODUCTION
This course is intended to provide the student who has completed Spanish

12 or equivalent with an opportunity to develop and refine habits of gesticulation, rhythm, and intonation of contemporary spoken Spanish. The course will include close work on two contemporary dramatic works, which will give the student practical experience in the skills of interpersonal encounters in which control of oral expression is required. Although some consideration will be given to the texts as dramatic works, the course is principally a workshop in advanced oral Spanish. Prerequisites: Spanish 12 or equivalent skill in the language.
Mr. D'Lugo

Spanish 141 SPANISH TRANSLATION WORKSHOP
As the title indicates, this is a *workshop* and not a descriptive course in the techniques of translation. The purpose of the course is to enable students to translate printed data (commercial, technical, scientific, comic strips, etc.) from Spanish into English and *vice-versa*. The course will be based on a linguistic approach and will consist of formal sessions in which this basic theory and its diverse techniques will be taught—plus the workshops. During the workshops, printed materials will be distributed to the students for them to translate. The workshop sessions will be the testing ground for the theory exposed during the "magisterial" lessons. Other exercises will cover these aspects: Morphemes, lexicon and cognates, syntagmatic sequences, clauses and sentences. Paragraph and "textual" translation will be dealt with separately. Prerequisites: language majors—four college semesters of Spanish or equivalent; linguistics majors—a course in at least one of the following: general linguistics, theoretical linguistics, transformational grammar, semantics. Spanish 131 or permission of instructor.
Mr. Ortiz

Spanish 143 SPANISH ESSAY AND THOUGHT
The course consists of readings and discussions of selected essays from influential writers of Spain and Spanish America as these express the cultural, social, political, and ethnic values and concerns of the Spanish-speaking people. Readings will reflect both the traditional notions of Hispanic society as well as contemporary views as posed in recent magazines, periodicals, and newspapers. Prerequisite: Spanish 131 or permission of instructor.
Mr. Ortiz

Spanish 145 SPANISH AMERICAN SHORT STORY
An introduction to the tradition and development of shorter narratives in Spanish America. Class discussion and readings will emphasize the richness of artistic innovation from the earliest "primitive" narrations of colonial chroniclers through the progressive refinements of theme, local color, style, and narrative technique characteristic of this oldest and most favored of Spanish American literary genres. Particular attention will be paid to those authors and stories that represent the landmarks in the shorter narrative tradition: writings of Rubén Darío, Horacio Quiroga, Borges, Fuentes, Cortázar, Rulfo. Conducted in Spanish.
Mr. Ferguson

Spanish 146 SPAIN AT THE CROSSROADS
A consideration of post-Franco Spain, as reflected in literature, film, theater, and journalism. In addition, an examination of recent political and historical writings that have attempted to expound integrated visions of the

"new" Spanish society. Prerequisite: Spanish 131 or permission of the instructor.
Mr. D'Lugo

Spanish 206 SPECIAL TOPICS IN SPANISH

Variable credit.
Staff

Spanish 207 FIELD WORK IN THE HISPANIC COMMUNITY

Students will have supervised contact and work in one of a variety of community agencies and projects servicing the Hispanic community in Worcester (Bilingual school programs, Casa de la Comunidad, Worcester Legal Services, etc.). Students participating in particular field projects will be assigned to a member of the department and/or persons in related academic departments. Under the direction of the adviser, students will be placed in a particular community project. Through consultation with the campus adviser and a designated supervisor from the cooperating agency, the student will work with members of the Hispanic community while developing a written project related to the particulars of language, culture, and related problems of the bilingual community in Worcester. Prerequisites: proficiency in Spanish as determined by the department; successful completion of course work in the field or fields related to the specific project area; permission of instructor. Offered for variable credit.
Ms. Nigrosh, Staff

Spanish 245 THE MODERN SPANISH NOVEL

A number of nineteenth century novels will be read. The twentieth century will be represented by such outstanding novelists as Galdós (who bridges the nineteenth and twentieth centuries), Unamuno, Valle-Inclán, Baroja, and Delibes. Conducted in Spanish. Prerequisite: Grade of B—or higher in a third-year course above Spanish 131.
Mr. Barbera

Spanish 247 NARRATIVE LANDMARKS IN THE HISPANIC TRADITION

Variable topic. The selection of works will reflect the contribution to both national and world literatures of major narrative works of Spain and Spanish America. Each work will be studied within the context of the literary and social ambience to help clarify the nexus between the work of art and its matrix, as well as the relationships of works of art to each other. Readings include: *La Celestina, Lazarillo de Tormes, Don Quijote de la Mancha (Part 1), El Burlador de Sevilla, La Vida es Sueño.*
Mr. Barbera

SPANISH LITERATURE COURSES CONDUCTED IN ENGLISH

Spanish 272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This is a cluster course in which literature, geography, and philosophy provide integrated perspectives on the phenomenon of the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical, geographic, economic, literary, architectural, and other cultural dimensions of Hispanic, Anglo-American, and European

notions of the city. Conducted in English. Also listed for credit as Comparative Literature 272, Geography 272, and Philosophy 272.
Mr. D'Lugo

French

See Department of Foreign Languages and Literatures.

Geography

DEPARTMENT FACULTY

Leonard Berry, Ph.D., Professor of Geography, Director, Graduate School of Geography; Codirector, International Development
Martyn J. Bowden, Ph.D., Professor of Geography
Anne Buttimer, Ph.D., Professor of Geography
Douglas L. Johnson, Ph.D., Associate Professor of Geography
Kirsten Johnson, Ph.D., Assistant Professor of Geography
Gerald J. Karaska, Ph.D., Professor of Geography, Editor of *Economic Geography*
Roger E. Kasperson, Ph.D., Professor of Geography, Government and International Relations
Robert W. Kates, Ph.D., Professor of Geography and Research Professor in the Center for Technology, Environment and Development
Duane S. Knos, Ph.D., Professor of Geography
William A. Koelsch, Ph.D., Associate Professor of History and Geography, University Archivist
Laurence A. Lewis, Ph.D., Associate Professor of Geography
David C. Major, Ph.D., Research Professor
Sharon Nicholson, Ph.D., Assistant Professor of Geography
J. Richard Peet, Ph.D., Associate Professor of Geography
Harry Steward, Ph.D., Associate Professor of Geography
Billie Lee Turner II, Ph.D., Assistant Professor of Geography
Harry E. Schwarz, B.C.E., Professor of Environmental Affairs
Saul B. Cohen, Ph.D., Research Professor of Geography
Dennis Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Adjunct in Geography
Daniel M. Dworkin, Ph.D., Affiliate Associate Professor of Geography
Philip O'Keefe, Ph.D., Affiliate Associate Professor of Geography
Raymond E. Murphy, Ph.D., Professor of Geography Emeritus
Henry J. Warman, Ph.D., Professor of Geography Emeritus

STAFF

Michael Dulka, Map and Geography Librarian
Herbert C. Heidt, Senior Cartographer and Manager, Cartography Laboratory
Katherine A. Parella, Administrative Assistant

When the Graduate School of Geography was organized in 1921, Clark became the second university in the United States to establish a separate graduate program in geography. At present, advanced training is provided leading to the master's and doctor's degrees. In addition, the school offers an undergraduate major and a seven-year program (B.A./Ph.D. degree). Clark is a center for geographical training and research in the United States and its various offerings provide a maximum of individual attention through student-teacher dialogue.

PUBLICATIONS

A professional magazine, *Economic Geography*, is edited by a faculty member. Started at Clark University in 1925, it is the only journal published in English that specializes in economic and urban geography. The magazine has a worldwide distribution with a total circulation of about 5,000.

Through the years, graduate students have maintained the Clark University Geographical Society (CUGS). The annual publication, *Monadnock*, keeps School of Geography alumni in touch with each other and with news and scholarly activities of the school.

In addition, some students and faculty members edit and produce a third publication, *Antipode*.

UNDERGRADUATE PROGRAM

The undergraduate Geography Program covers a three-year period (sophomore-senior), during which 50–80 percent of the course time is accounted for within the program. A minimum set of Geography requirements is built into the major, and much of the student's work in cognate fields will be carried on through the advice of the adviser and in the context of individual needs and capacities.

Emphasis in the undergraduate major is on broad training in the field. Within this training some specialization is facilitated by the organization of courses in concentrations.

There is a formally structured departmental advisory system in which every declared undergraduate major has a specific adviser. Each semester, student course selection should be approved by the adviser to insure that requirements for graduation are met.

Courses are sequential to allow progressively greater use of skills from 0 level to 100-level to 200-level courses. The recognized areas of concentrated interest at the undergraduate level are:

a) cultural/humanistic
b) environmental affairs/management
c) physical geography of human systems
d) regional/international development/political economy
e) urban/social/planning
f) cartography—as cartography has fewer faculty than the other groups, there will be limited offerings in this area.

The following diagram shows the pattern for an undergraduate major. The introductory course is followed by a choice of two out of three 0-level courses. Two skill courses form part of the 100-level offering, and, in addition, the 100-level courses provide an opportunity for all students to concentrate on writing skills. Each major will designate one 100-level course as a writing skills course. Majors are required to take at least one out of five "problems" courses and precede this by a 200-level course in the same "stream." Each student takes five elective courses in Geography; one of these must be a "problems" course.

THE GEOGRAPHY UNDERGRADUATE MAJOR

0-Level	0-Level	100-Level	200-Level	300-Level
Beginning	*Introductory*	*Special Skills and Substance*	*Advanced*	
Survey of Geography	Human/ Cultural Geography	14 topical courses with emphasis on writing skills	20-plus courses	5 "problems" courses; each a review of the field shared with graduate students. (Seminar format)
	Geography of Physical Systems	+		
	Economic Geography	Skills in Mapping, Statistics, Field Studies, Computer, Language	Concentrated advanced study,	
Compulsory	2 out of 3	At least 2 skills plus 1 other	At least 1	At least 1

Skills Courses

To meet the skills requirement, two of the following courses must be successfully completed: Mapping Fundamentals, Computer Programming, Geographic Statistics, a field skills course (e.g., Historical Geography of New England—Field Techniques in Geomorphology), a language to at least first semester second-year level, optional skills. (Optional skills courses can be substituted for one of the skill courses with permission of the adviser and director.)

The selection of the skills courses must be approved by the adviser.

For those taking a dual or interdisciplinary major, the following are required: Survey of Geography (011), one of the following introductory courses—Physical (014), Economic (015), Cultural (017)—two of the "Skills" courses, a 100-level course, a minimum of two 200-level courses that are clearly linked to the cognate field. One of these 200-level courses must be a "problems" course.

Since 1971-72, a formal seven-year program for Clark undergraduate students has been offered, leading to the Ph.D. degree in geography. At the undergraduate level, applicants must major in geography or a dual or interdisciplinary field and make application by February of the junior year. The B.A./Ph.D. program may include the sixth year off campus, in residence at another university or agency. Admission is limited to a very small number of highly qualified students. For specific information, contact the director of the School of Geography. Complete applications to this program must be submitted to the Geography Office no later than February 15.

THE GRADUATE SCHOOL OF GEOGRAPHY—PH.D. PROGRAM

Admissions: Applicants without prior training in geography are welcome. Depending on their concentrations, they may be required to improve their knowledge of elements of geography, cartography, or descriptive statistics. Courses taken to remedy any deficiencies will not count as part of the regular program. The Graduate Record Examination scores (verbal and quantitative) are required of all students with the exception of those in foreign countries.

Graduate Program: The graduate program in Geography at Clark has been derived from a synthesis of faculty-student discussions, documents and experiences. The Ph.D. training program is the central thrust in the Graduate School of Geography at Clark. Under special circumstances, however, a predoctoral or a nondoctoral M.A. is available. (See the Departmental Handbook for details concerning these degrees.)

Degree Objectives: The graduate program in geography at Clark recognizes a basic difference in emphasis between undergraduate and graduate education. Undergraduate education stresses the mastery of content and skills associated with sets of disciplines that presumably have relevance to future careers and lifestyles. Graduate education, on the other hand, eases entry into a community of professional scholars-learners who learn outside the formal structure of the classroom. Such scholars are skilled in constructing learning experiences for themselves and in structuring their learning in a form that suggests avenues in the continuing development of their fields of study. The program of study aims at providing experiences that nurture the development of the knowledge and skills essential to that mode of learning.

It is in recognition of the foregoing that at least seven outcomes are identified as objectives in the education of prospective members of the geography community.

1) development of extensive knowledge in the content of geography and competence in the use of research skills
2) development of a sense of problem (for research problems are at the core of an experiential learning process)
3) development of divergent thinking skills from which creative and original ideas evolve
4) development of a sense of the tentativeness of knowledge and a patience with ambiguity
5) development of a tough-minded learning discipline
6) development of sense of self-confidence and competence
7) development of a sense of the nature of the community of geographers.

With these philosophical guidelines in mind, the program is designed to enable students to focus their learning experience. These structures are not meant to be superimposed limitations, rather they attempt to provide a personal focus for students.

Program Structure: The graduate curriculum is organized to give a broad view of the field of geography and its teaching, as well as a specialized approach to selected subfields. The subfields are organized in accordance with the interests and competencies of the staff. The subfields include: Cultural/Humanistic, Environmental Management, Physical Geography of Human Systems, Regional/International Development/Political Economy, Urban/Social. In addition, ongoing projects conducted by research groups in the Geography Department and the Center for Technology, Environment and Development should be considered an integral part of the graduate curriculum; students may choose to structure their programs around such collaborative research endeavors.

In the organization of the curriculum in a specialized, structured manner, there is neither the intention nor the desire to exclude faculty and students who do not wish to operate within the framework of a formal subfield. Students may wish to create personalized programs or fields of concentration outside of the formal subfields; these options are limited only by the general nature of the offerings and the interests and competencies of the staff.

The first year of graduate study (for the incoming B.A. or B.S.) is planned to broaden the student's knowledge of the field of geography and help define student interests in the context of the Clark program. For the incoming M.A., this period will help the student become familiar with the field of geography at Clark. Courses, including directed readings, are the primary mode of study. Students are encouraged to take two or three "problems" courses and to sit-in on the meetings and seminars of at least one research group.

A departmental colloquium course serves the entire community, with the expectation that all graduate students and faculty will attend. Themes for the course will vary from year to year. The course introduces first year students to the program and to ongoing intellectual work in the department.

At the end of the first year, a formal review of the student's first year work and planned future program will be conducted by a three member Evaluation and Program Planning Committee. This evaluation and planning review is envisioned as a vital diagnostic tool, which identifies problems or needs, and plans for development.

The Evaluation and Program Planning Committee will continue in its advisory role throughout the second year. The student will consult with committee members on a regular basis to establish specific goals for this phase of graduate study, to discuss problems and progress, and to present the products of the student's work.

The second year should emphasize the graduate learning mode through in-depth work in the student's field of interest, through focus on problem formulation and through direct experience with research. To this end, the student generally will not enroll in courses for the first semester of the second year, unless there are particular reasons to do so. Most probably, this year will involve working closely with a single faculty member or a group of faculty and students in a teaching, research, or applied activity.

The remainder of the second year will be devoted to the progressive development of conceptual depth and skills, with a focus on background work in the dissertation field, proposed formulation and preparation for the doctoral examination. An effort should be made to integrate these tasks within a comprehensive research program. Students are encouraged to structure their programs around collaborative research projects with each other and with committee members engaged in ongoing research efforts. In general, students should have completed their skills requirements by the end of the second year. (See the Departmental Handbook for details.)

No later than the end of the second year, a doctoral examination committee will be established unless the advisory committee has determined that another course should be taken.

The doctoral examination committee will encourage breadth in substantive pursuits as well as a certain depth of knowledge of methodological and philosophical concerns relevant to a student's interests.

Normally a student will complete the doctoral examination before embarking on a dissertation. The dissertation is seen as a culminating learning experience and is organic to the individual's continuing scholarship. As such, the year in which the dissertation proposal is submitted and approved must be a year in which the student is in residence and such residence shall continue for one additional semester after approval. (See Departmental Handbook for details.)

Resident Requirement

A three-year residence beyond the B.A. degree is required for the Ph.D. program. Students entering with an M.A. in a field other than geography will be expected to take essentially the three-year residence program. Students entering with an M.A. in geography from another institution may expect to complete their residence in five semesters or two and one-half years.

Teaching and Research Prerequisite

Some teaching and research experience at Clark is prerequisite to the doctor's degree and the terminal M.A. degree. Every effort is made to organize various forms of internships to provide on- and off-campus training activities, at the teaching and research levels.

DISTINCTIVE FEATURES AND SPECIALIZATION

The School of Geography is housed in modern quarters in the University's Academic Center. Graduate students and senior geography majors are assigned carrels in the Geography Workroom. The workroom and other sections of the Geography Building contain specialized equipment and research facilities for the use of students and staff. The John K. Wright Reading Room contains the Graduate School of Geography's working reading collection. The core of this collection is the personal library of Dr. John K. Wright. The collection is continuously updated by the addition of new publications in the field of geography and subscriptions to major geographic and scientific journals. A Curriculum Library is also located in this reading room. The Libbey Library of the Geography Workroom serves as a student lounge.

The Guy H. Burnham Map Library is a multifaceted, special library staffed by a professional librarian. It is one of five federal depositories for maps and charts. The collection consists of over 120,000 maps, charts, atlases, aerial photographs, and globes. Many supportive materials are on-hand; others can be obtained through interinstitution or interlibrary cooperation. The library is designed to meet the geographic needs of the Clark community and the central Massachusetts area.

Cross-disciplinary training (as evidenced by the joint appointments held by geography faculty with other departments); the clustering of faculty research and teaching interests in several areas related to environmental affairs/management, cultural/humanistic, physical geography of human systems, regional/international development/political economy, urban/social/planning, and cartography currently characterize the school.

The School of Geography fosters student and faculty exchange with other institutions, including institutions outside the field of geography and with geography departments elsewhere. Clark has long encouraged ties with foreign students and faculty. Focus in recent years also has included links with developing institutions in the U.S. by training prospective faculty and by facilitating programs.

COURSES

011 SURVEY OF GEOGRAPHY

This survey provides a general conceptual framework for understanding modern geography. Emphasis is placed on the interrelation of various approaches to geographic research as presently conducted in the Graduate School of Geography. Urban physical (climatology, soils, biogeography, and land form studies), economic, political, social, cultural, historical, and regional themes will be developed with approximately one third of the lectures being given by various staff members. The course is designed primarily for freshmen and sophomores and is a required course for geography majors.
Mr. Johnson, Mr. Bowden

013 FIELD STUDIES OF ENVIRONMENTAL ISSUES

Explore the Worcester region and its environmental issues, learn to do field research, to analyze findings to present results to others. Limited to freshmen and sophomores only, and to those who are willing to work together in small groups. Also listed for credit as Environmental Affairs 013 and Science, Technology and Society 103.
Mr. Kates

014 INTRODUCTION TO PHYSICAL GEOGRAPHY AND ENVIRONMENTAL MANAGEMENT

This course is a basic inquiry into components of geomorphology and climatology. The role of man as a critical agent in physical geography is included by looking at inadvertent climatic modification and alteration of the earth's surface by man's activities. Course includes labs and field trip.
Mr. Berry, Mr. Lewis

015 INTRODUCTION TO ECONOMIC GEOGRAPHY

This is an introduction to economic geography including an outline and critique of theories of location and economic development. Also listed for credit as International Development 015.
Mr. Peet, Staff

017 INTRODUCTION TO CULTURAL GEOGRAPHY

The course is an ecological and historical approach to the study of cultures and culture change in a spatial context. A series of broad themes and problems are illustrated by case studies. Among the major themes to be considered are: adaption to environment; culture in prehistory; migration and the creation of culture areas; the world views of primitive, traditional, and industrial culture; culture landscape and the cultural geography of the United States. A schedule of three lectures and one discussion per week are integral parts of the course.
Staff

098 READINGS IN GEOGRAPHY

The course offers directed readings for undergraduates in an area of their choice. Prerequisite: permission of instructor. Offered for variable credit.
Staff

099 RESEARCH IN GEOGRAPHY

This course is special research projects for undergraduates in an area of

their choice. Prerequisite: permission of instructor. Offered for variable credit.
Staff

108 POPULATION GEOGRAPHY

"Why are people located where they are?" is a fundamental research question in geography. This course explores the distribution of the world's population and attempts to explicate some measure of that patterning. Vital statistics are introduced and applied to various theories of population growth. Finally, future trends in population growth and implications to the earth as the home of *Homo sapiens* is discussed.
Mr. Turner

110 INTRODUCTION TO STATISTICAL GEOGRAPHY

Principles of inferential statistics will be introduced. These will include point estimation, internal estimation, sampling distributions, hypothesis testing, and correlation techniques.
Mr. Karaska

114 DYNAMICS OF THE EARTH SURFACE

This is an examination of the earth's physical landscapes including the processes that shape the landforms as well as the evolution of landscapes. This inquiry will investigate the roles of water, ice, wind, and human activity on the erosional and depositional processes.
Mr. Berry, Mr. Lewis

115 CULTURAL ECOLOGICAL SYSTEMS

Investigates cultural adaptations to a variety of ecological settings. Selected case studies are used to illustrate systematic aspects of lifestyle adjustments in a number of the earth's major environmental regions.
Mr. Turner

117 CULTURE LANDSCAPE

The point of departure for this course is the tradition of landscape studies in American geography. The focus of attention is directed to an exploration of the processes that have shaped the landscapes of China, South Asia, the Middle East, western Europe, and the New World, among others. Artistic, literary, historical, and ecological perspectives on landscape as well as methodologies for analyzing and reading landscape are included.
Mr. Johnson

122 THE ATMOSPHERE AND DYNAMIC CLIMATOLOGY

This introduction to climatology stresses the concepts and principles necessary in understanding the climatic system. These concepts are applied to various regional climatologies, climatic change, and current problems in atmospheric science (e.g., air pollution, city climates and weather modification). This is intended for the physical geography student and others wanting a complete background (on an introductory level) to physical climatology.
Ms. Nicholson

125 DEVELOPMENT PROBLEMS

Refer to course description under International Development 125. Also listed for credit as History 125.
Mr. Berry, Ms. Seidman, Mr. Ford

129 LATIN AMERICA: ISSUES AND PROBLEMS

The course will review some of the main issues confronting modern Latin America including rural poverty, the extinction of Indian populations, uncontrolled urban growth, dependent industrial development, and issues in agricultural production. These issues will be analyzed in the light of differing theoretical explanations regarding the nature and dynamics of underdevelopment, and in relation to commonly proposed solutions, such as self-help housing, agrarian reform, and colonization. Also offered for credit as International Development 129.
Ms. Johnson

135 OUR WORLD AND CLIMATE

Unlike 122, this course is intended for students whose prime interest is not physical geography. Climatic principles and concepts are reviewed briefly only to aid in understanding the main focus of the course: current world problems related to climate. These will be geared in part to the individual interests of students, but will generally include: man-made modification of surface (deforestation, desertification, city climates) and atmosphere (pollution, ozone, carbon dioxide, dust, modelling), weather modification, climate and culture, and climatic hazards.
Ms. Nicholson

136 GEOGRAPHY OF THE CAPITALIST WORLD SYSTEM

Review of world systems theories, crucial phases in the development of the capitalist world system, history of center-periphery relations, underdevelopment, multinational corporations and the new international division of labor, the geography of consciousness and spread of American culture.
Mr. Peet

140 CITIES AND CULTURE

Studies of different internal structures and patterns of urban place in areas of traditional urbanization and in the developed and developing worlds. Emphasis will be upon the world views, cosmology of different culture groups, and the expansion in cities.
Mr. Bowden

157 INTRODUCTION TO RESOURCE MANAGEMENT

The course provides an introduction to the salient concepts, issues, and debates in the field of resource management. It focuses on three central themes: 1) the evolution of environmental ethics and the practice of resource management, 2) the relationship between economic growth and environmental quality, 3) the process of decision making in resource management. In addition, a number of illustrative case studies are examined. Also listed for credit as International Development 157.
Ms. Johnson

161 GEOGRAPHY OF AMERICAN INEQUALITY AND POVERTY

Viewpoints on poverty—the culture of poverty versus Marxist interpretations. The geographic (environmental) theory of poverty, poverty in rural areas, rural to urban migration, ghetto formation, poverty in cities, antipoverty policy and planning will be discussed.
Mr. Peet

165 SIMULATING THE CITY

The course involves representation and analysis of city organization and function by use of games, role playing, and other devices.
Mr. Knos

171 SOCIAL GEOGRAPHY

To explore the human experience of geographical milieu from a "social" perspective; to elicit an understanding of our own modes of life by placing them in historical and cross-cultural perspective; to foster sensitivity/empathy toward other modes of life and an appreciation of issues involved in harmonizing diverse *genres de vie* within an ecologically vulnerable planet; to elucidate questions of human values and power in the application of geographic models to planning at urban and regional scales.
Ms. Buttimer

172 EUROPEAN ROOTS OF AMERICAN SPACE: THE CROSS-ATLANTIC EXPERIENCE

This is an examination of the European images of the known world at the time of the discovery of America, and of how these early notions affected later thought about America in the areas of geography, philosophy, and the arts. Using literature, film, and other artistic forms, specific models are studied in a variety of contexts: the island, the city, the garden, the frontier, the general contrast between primitive and civilized spaces. The course is also listed for credit as English 172, and Philosophy 162.
Mr. Bowden

178 CULTURAL ECOLOGY IN THE HUMAN TROPICS

This course examines a range of environments and subsistence strategies characteristic of the tropics. Examples will be taken from Latin America and Africa. Attention focuses on issues of population growth, agricultural intensification, and the application of traditional strategies to contemporary economic development. Also listed for credit as International Development 178.
Mr. Turner

181 MAPPING FUNDAMENTALS

An introduction to the fundamentals of map logic and cartographic methods, with an emphasis on the use of graphic products as basic geographic tools.
Mr. Steward

196 CULTURE AND AMERICAN SPORT

A cluster course in the Program of Humanistic Studies, parallel and overlapping courses in cultural geography, economics, and psychology using common readings, writing assignments, and group meetings in an exploration of various American games as expressions and reflections of American history, character, values, attitudes, environment, self-image, mentality and economic ethos and institutions. Emphases will be on: (1) the relationship between the character and structure of the games and their success among different groups of Americans, (2) the timing of adoption of the games, (3) explanations for the transformation of the games from European and early forms, (4) economic forces influencing the structure of spectator and participatory sports, (5) deviation of professional and amateur variants, (6) scale and nature of sports as a business. Native-

American, European, and U.S. games will provide examples. Football, rugby, soccer, baseball, basketball, hockey, lacrosse, and tennis, among others will be studied. Also listed for credit as Economics 196 and Psychology 196.
Mr. Bowden

201 CLIMATIC ENVIRONMENTS OF THE MIDDLE LATITUDES

This stresses dynamic and descriptive climatology of the regions poleward of the subtropics, including regional climatic systems and hazards. Special attention will be given to geographical areas of the students' own study and research interests. Depending on enrollment, this may be handled as a seminar.
Ms. Nicholson

202 CLIMATE NEAR THE GROUND

This course in "microclimatology" deals with the climatic processes occurring within the air layers closest to the ground and, in particular, how the nature of the ground surface affects climate. Topics include temperature and wind over various types of ground cover (soil, vegetation, forest, crops) and topography (the climate of slopes, valleys, etc.), turbulence, diurnal and seasonal variation of temperature and humidity, and effects of the surface on the hydrologic cycle.
Ms. Nicholson

205.2 EDUCATION AND GEOGRAPHY INTERNSHIP SEMINAR

This seminar serves to help student teachers deal with specific kinds of problems which they face in the classroom. Experiences are shared and discussed. The seminar is designed to help student teachers develop their own classroom curriculum and teaching techniques. Also listed for credit as Education 205.2.
Mr. Knos

206 AUTOBIOGRAPHY WORKSHOP

The course offers a consideration of how students have learned in their own lives as a prerequisite to helping others to learn. The course seeks to engender an appreciation of both uniqueness and generalization in the process of teaching any social science discipline. Also listed for credit as Education 206.
Mr. Knos

208 ENVIRONMENTAL COGNITION AND BEHAVIOR

The course will review the theories, methods, and research findings in the field of environmental perception. Particular attention will be given to the development of spatial cognition and to cross-cultural studies in cognition. Also listed for credit as International Development 208.
Ms. Johnson

209 SIMULATION AS A LEARNING DEVICE

This course is designed to provide experience in the development of simulations to illustrate a variety of geographic concepts. Concepts will be defined; illustrations in the real world will be formulated; simulations of these situations will be developed. Also listed for credit as Education 209.
Mr. Knos

210 SOCIO-ENVIRONMENTAL IMPACT ANALYSIS

The aim of the course is to provide an overview of the theories, methods, and models used in assessing the social repercussions of planned development. A case study approach will cover both domestic and foreign projects. These will be analysed in terms of the available institutional planning tools such as social impact statements, as well as the critical literature on the subject. The goal is to equip the student with both analytical skills and a critical perspective necessary to evaluate the social aspects of development. The course is oriented towards majors in International Development and Environmental Affairs; instructor's permission is required for non-majors. Also listed for credit as Environmental Affairs 217.
Ms. Johnson

211 GEOMORPHOLOGY IN THE HUMID TROPICS

The nature of geomorphological phenomena in the humid tropics is analyzed. The ramifications of man's utilization of these areas will be examined.
Mr. Lewis, Staff

212 COMPUTER PROGRAMMING

Fundamentals of FORTRAN IV are presented. Designed for students with no mathematics beyond high school. Emphasis is on numeric applications.
Staff

213 PROBLEMS IN PHYSICAL GEOGRAPHY OF HUMAN SYSTEMS

Advanced seminar will discuss two main themes: 1) the development of historical geomorphology through the nineteenth and twentieth centuries (Special attention will be given to the historical development of current important research trends.) 2) an analysis of current ideas on landscapes of arid areas with special relation to the arid southwest section of the United States and the Sahara. (Formerly Undergraduate Seminar in Geomorphology.)
Mr. Berry, Mr. Lewis

214 SEMINAR IN RIVER BASIN PLANNING

This course will concentrate on one River Basin and the studies made and plans prepared to develop this River Basin. Readings, discussions and research will focus on the change over time of study objectives, techniques and results and relate them to the appropriate economic and social values. Also listed for credit as Environmental Affairs 222.
Mr. Schwarz

215 FLUVIAL PROCESSES IN GEOMORPHOLOGY

The focus will be on the relations between hydrology and geomorphology. The basic properties of hydraulic geometry, erosion, and deposition will be explored.
Mr. Lewis, Staff

216 GEOMORPHOLOGY AND CLIMATOLOGY OF ARID LANDS

An analysis of the landscapes of arid areas of the Earth and the dynamics under which they operate with special relation to the arid southwest section of the United States and the Sahara.
Mr. Lewis, Ms. Nicholson

217 HISTORY OF CARTOGRAPHY
A basic survey of the history of mapping up until about 1900. Topics will include the methodological basis of investigations into the subject, maps of primitive peoples, the classical, medieval and Renaissance periods, the rise of national surveys, the relationship of mapping with exploration, and the cartography of North America. Also listed for credit as International Development 218.
Mr. Steward

218 SEMINAR IN PHYSICAL ENVIRONMENT AND DEVELOPMENT
A senior/graduate seminar which explores the current "state of the art" of our understanding of the role of environment and natural resources in development. A review of the field as a whole will be followed by case studies from East Africa, the Sahel, Southeast Asia, and the Caribbean.
Mr. Berry, Mr. Lewis

220 AGRICULTURE AND GRAZING—A PHYSICAL PERSPECTIVE
Agricultural and grazing practices with their relations to the environment are examined. Various physical and cultural/economic situations including the developed and developing world are the focus for the inquiry. Also listed for credit as International Development 220.
Mr. Lewis

221 APPLIED SURFACE WATER HYDROLOGY
Refer to course description under Environmental Affairs 221.
Mr. Schwarz

223 HUMAN ACTIVITY AND GEOMORPHOLOGY
The role of man as the principal geomorphic agent in both urban and rural environments is emphasized. The problem of integrating economic activity within the constraints of the physical environment to minimize negative geomorphic responses will be explored.
Mr. Berry, Mr. Lewis

224 MAPPING FOR INTERNATIONAL DEVELOPMENT
This course will seek to set the current state-of-the-art/future potential of mapping techniques and technology in an international development context. It is planned to augment the lectures and project work with field trips to the cartographic sections of relevant agencies, e.g., United Nations, World Bank, Organization of American States, etc. Also listed for credit as International Development 224.
Mr. Steward

226 TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT
For advanced students, this is an introduction to the theory and methods of risk assessment and hazard management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation. Also listed for credit as Environmental Affairs 226 and Science, Technology and Society 226.
Mr. Kates

228 MANAGEMENT OF ARID LAND

The drylands of the world present special development problems. Peculiarly prone to degradation, these regions face the difficult task of providing support for a rapidly growing population. Viewed in a historical perspective, the demography, social and livelihood systems, behavioral characteristics, and physical constraints of dryland ecosystems will be analyzed. Special attention will be paid to evaluating the management strategies currently employed in their use, identifying the obstacles constraining their growth, and assessing their future development potential. Also listed for credit as International Development 228.
Mr. Johnson

230 CULTURAL ECOLOGY OF PASTORAL SYSTEMS

Comparative cross-cultural analysis of a number of pastoral resource-use systems. Emphasis is placed on but not limited to traditional pastoral adaptations to arid and semi-arid environments in the subtropics and middle latitudes. Alternative development strategies for modernization and social change within these systems will also be studied using case studies and the analysis of individual development projects. Also listed for credit as International Development 230.
Mr. Johnson

231 SEMINAR: POLITICS AND THE ENVIRONMENT

This seminar is intended for the student with professional career or advanced study objectives. The seminar is organized about current selected policy issues or environmental controversies. Each of these is treated in a two-week period which includes a state-of-the-art assessment, case applications and a short student position paper on an assigned question. Representative issues have included the environmental movement, models of the policy process mediating environmental conflict, risk and the media. Permission of instructor required. Also listed for credit as Environmental Affairs 231 and Government 231.
Mr. Kasperson

233 GEOGRAPHY OF PUBLIC SERVICES

Using the American city as the locus of study, this course analyzes current patterns and problems in the distribution of public services to local citizenry. The first half of the course deals with theory, methodology, and case example; the second, with student research on public service delivery in the Worcester area. Limited to 25 students. Also listed for credit as Government 233.
Staff

244 SEMINAR IN CLIMATIC CHANGE

This focuses first on the causes of climatic changes and the tools used in reconstructing and describing past climates and climatic variability. Then, chronologies of change on various time scales (geologic, historic, modern, future) are presented and case studies of the interaction between climate and cultures are considered.
Ms. Nicholson

245 PROBLEMS IN URBAN GEOGRAPHY

A synthesis of urban geography is emphasized. This is accomplished through readings, discussion, and problem formulation. The latter involves

research design and execution. Prerequisite: two courses in Urban Geography stream.
Staff

247 INTERMEDIATE STATISTICAL TECHNIQUES

This is a study of statistical methods and spatial statistics in geography. Topics will include estimation, hypothesis testing, simple and multiple regression, and correlation techniques. Canned computer programs will be used in case studies whenever possible. Prerequisite: introductory statistics.
Mr. Karaska, Staff

248 HAZARDS OF THE WORKPLACE

The course will survey the trends and extent of occupational hazards in the United States and inquire into the adequacy of current public policy and managerial efforts. Attention will be given to the value issues involved in alternative approaches to worker protection. Also listed for credit as Science, Technology and Society 248.
Mr. Kasperson

249 PROBLEMS IN CULTURAL/HUMANISTIC GEOGRAPHY

This course will cover problems in philosophical differences, approaches, and methodology, followed by consideration of academic problems, technical/data problems in the handling of sources, and practical and current "problems," which specialists in the "stream" find themselves addressing as consultants, planners, and research workers.
Mr. Bowden

251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT

An inquiry into current issues of scholarly debate in the field of environmental management. Also listed for credit as Environmental Affairs 251 and International Development 251.
Mr. Kasperson, Staff

253 HISTORICAL GEOGRAPHY OF NEW ENGLAND

A lecture, seminar, and field course concerned with specific research problems in the historical geography of New England.
Staff

255 HISTORICAL GEOSOPHY: IMAGES OF THE AMERICAN WEST

A historical approach to the study of perception of regions, space and territory, landscape and physical environment, with special emphasis on the American West 1800–1973. Emphasis will be on sources and techniques.
Mr. Bowden

257 THEORY OF MULTIOBJECTIVE RESOURCE EVALUATION

Introduction to the theory of multiobjective resource evaluation. Presents the full range of criteria required for the economic, social, and environmental evaluation of resource programs and projects, together with selected applications. Also listed for credit as Environmental Affairs 257.
Mr. Major

258 CENTRAL AMERICA: LANDSCAPE EXPERIENCE AND CHANGE

This region is examined in context with the various cultures that have made imprints on its landscapes. The shared and particular values and technologies of Amerind, European, African, and Ladino are traced from the rise of early civilization in the region to modern times. Emphasis is placed on landscape utilization and modification as expressions of each culture's experience. Also listed for credit as International Development 258.

Mr. Turner

260 URBAN CLIMATOLOGY

This deals with the effect of cities on the climatic environment. Topics include air pollution; urban effects on weather variables (e.g., the "heat island" and rainfall); urban design as related to climate; and climatic modelling.

Ms. Nicholson

261 URBAN ECONOMIC GEOGRAPHY

This course offers a systematic study of external and internal spatial relationships of cities and city systems. Urbanization is viewed as a process in spatial organization involving mutual interrelations among decision units.

Mr. Karaska

264 REGIONAL ECONOMIC DEVELOPMENT

Critique of regional development and underdevelopment theories, some recent alternative theories, underdevelopment in the Third World, underdevelopment in declining regions of the First World, case studies from the Pacific Islands and other areas.

Mr. Peet

268 VALUES IN GEOGRAPHY

Critical examination of some major themes and evaluative emphases in geographic thought. Prerequisite: course background in geography.

Ms. Buttimer

269 AGRICULTURE AND RURAL CHANGE

The course will examine the major historical and contemporary transformation of the rural space economy, varying from the neolithic to socialist collectivization. Special attention will be given to peasant production systems and their articulation within broader social structures. Two forms of agricultural transition out of subsistence production will be analyzed in detail: the transition to collective agriculture in the Soviet Union and the transition to agribusiness in the U.S. and the Third World.

Ms. Johnson

270 TIME AND SPACE IN THE CITY

An attempt is made to examine selected themes and research models concerning the experience of people in urban milieux.

Ms. Buttimer

272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This is a cluster course conducted primarily as a senior seminar in which

Comparative Literature, Geography, and Philosophy will provide integrated perspectives on the city. American and European paradigms of classical and contemporary cities will focus the analysis of historical geographic, economic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City.
Mr. Bowden

273 HUMAN EXPERIENCE OF SPACE AND TIME

Exploring the notion of *Lebenswelt* (life world) as a meeting ground between geography and phenomenology.
Ms. Buttimer

275 CITIZEN PARTICIPATION IN PLANNING

Erosion of public confidence in the institutions and professionals charged with managing societal affairs is commonplace, and has brought proposals that decision making be conducted more openly and with full opportunity for citizen participation. This course explores a range of issues surrounding this concept, with particular reference to situations involving its application in planning contexts (e.g., urban redevelopment, power plant siting, environmental management). Major theories regarding the nature and forms of participation will be examined and contemporary experience with participatory programs will be reviewed. Also listed for credit as Government 275, Environmental Affairs 275, and Science, Technology and Society 275.
Mr. Ducsik, Mr. Kasperson

277 SYSTEMS ANALYSIS AND SIMULATION

Refer to course description under Science, Technology and Society 219. Also listed for credit as Environmental Affairs 219.
Mr. Gould, Mr. Schwarz

279 AMERICAN LANDSCAPE

This is an interdisciplinary course with emphasis on the American encounter with environment, the emergence of distinctive settlement and livelihood patterns, and the dynamic tension between regional and national landscapes. Both ecological and genetic perspectives are featured in examining changing cultural attitudes toward the American landscape. While primary readings are drawn from geography, extensive excursions into art history and literature are important features. This reflects cluster links to the courses of J. Conron (English 279), and B. Grad (Art 279).
Mr. Johnson

280 PLANNING ISSUES

This is a broad introduction to issues in planning including economics, social, and political concerns. The focus will be on actual and hypothetical examples.
Staff

281 PLANNING INTERNSHIP AND INTERNSHIP SEMINAR

This is an individual internship with a public or private agency involved in planning; offered in conjunction with a seminar. The internship will be under the supervision of a faculty member in the planning cluster or a related area. The seminar will be designed to help the student understand and strengthen his/her internship experience and will be attended by

various faculty in the planning cluster, as well as others with relevant internship experience.
Mr. Knos

282 PLANNING STUDIO 1: SKILLS

This course offers a problem-oriented approach to the learning of basic skills necessary to urban and regional planning. Case and exercise format will focus on communication and analytical skills including writing, mapping, elementary data handling, graphs, computers, and presentations.
Staff, Mr. Karaska

283 PLANNING STUDIO 2: PROBLEMS

Students will give practical application of planning skills to specific problems. The class will focus on one or more problems and pursue alternative solutions through a teamwork approach.
Staff

284 GEOGRAPHY OF THE MIDDLE EAST

A systematic approach to the geography of the Islamic culture realm, the course also covers North Africa and the non-Arab states of Turkey and Iran. The modernization and transformation of traditional patterns of livelihood and lifestyle characteristic of the Middle Eastern cultural mosaic comprises the focus of the course. Also listed for credit as International Development 285.
Mr. Johnson

289 PROBLEMS IN POLITICAL ECONOMY OF DEVELOPMENT

This course will examine the current "state of the art" and debates surrounding differing theories of underdevelopment and their implications for international and regional development. Also listed for credit as International Development 289.
Ms. Johnson

290 REMOTE SENSING OF THE ENVIRONMENT

This course will concentrate on the use of remotely sensed instrumentation as a tool for the geographer. Students should develop a working understanding of the electromagnetic spectrum with an emphasis on conventional aerial photo interpretation and the Landsat system. Also listed for credit as International Development 290.
Mr. Steward

292 CARTOGRAPHIC TECHNIQUES

This is a course in positive and negative artwork and basic photographic methods for map presentation.
Mr. Heidt

293 CLIMATIC ENVIRONMENTS OF THE TROPICS AND SUBTROPICS

The processes and patterns of the dynamic climatology of tropical and subtropical areas. Particular emphasis is given to the climates of Africa in terms of desertification and current development problems. Also listed for credit as International Development 293.
Ms. Nicholson

294 SEMINAR IN CARTOGRAPHY

An examination of perennial and new problems in cartography ranging from considerations of a philosophical and historical nature to the pragmatic concerns of contemporary mapping.
Mr. Steward

298 INTRODUCTION TO AUTOMATED CARTOGRAPHY

The course studies recent developments in automated cartography as it applies to the production of maps and cartographic data banks. It is an introduction to standard computer mapping programs for production of line printer as well as digital plotter maps to include the digitizer for creative base files and the CRI for editing maps and files.
Staff

299 AGRICULTURE IN TRADITIONAL ECONOMIES

Subsistence and peasant economies worldwide are the focus of investigation. Particular emphasis is placed on theories explaining change within agricultural systems. Also listed for credit as International Development 286.
Mr. Turner

299.9 INTERNSHIPS IN GEOGRAPHY

The course consists of faculty supervised internships to assist students in integrating academic theory with practical experience. Students are able to do extended research in a specific area of interest. Prerequisite: permission of instructor. Offered for variable credit.
Staff

310 RESEARCH SEMINAR IN DEVELOPMENT GEOGRAPHY

The seminar is designed for thesis- and dissertation-level students working in the areas of resources, development and environmental cognition, who are developing proposals or preproposal research papers. The seminar will provide a form for discussion, criticism, and practical advice. Also listed for credit as International Development 310.
Ms. Johnson

316 SEMINAR IN GEOMORPHOLOGY

The seminar will explore patterns of thought in modern geomorphology focusing particularly on fluvial and mass wasting processes acting directly on hill slopes.
Mr. Berry, Mr. Lewis

320 SEMINAR IN SYSTEMS AND NORMATIVE SCIENCE

The structure of explanations in normative (hypo-deductive) science is examined as the rudiments of more elaborate systems, teleological systems, and functional systems explanations. The structure of each system explanation is critiqued. Attempts to provide such explanatory forms in geography and related disciplines are examined.
Mr. Turner

333 TEACHING FIELD STUDIES OF ENVIRONMENTAL ISSUES

This is a parallel course to Geography 013, for Environmental Affairs and Geography seniors or graduate students interested in small group

leadership and investigative projects. Limited and requires advance consultation with instructor during fall semester.
Mr. Kates

340 STRESS AND CULTURAL DEVELOPMENT

Stress or pressure theories of cultural growth have been popular since the inception of the desiccation thesis. This course examines the various stress theories in terms of their linear/holistic structures and in terms of their emphases on environmental/cultural causes. Strong emphasis is placed on the works of anthropologists and archaeologists. New schemes are advanced which borrow from the stress theme but add an element of randomness from evolutionary theory.
Mr. Turner

350 NATURE, SOCIETY AND TECHNOLOGY: THEORY OF HUMAN ENVIRONMENT

Having spent the fall reading, thinking, and writing about the topic, I'll share with the class what I think I learned.
Mr. Kates

355 SEMINAR IN NATURAL RESOURCE THEORY

It's been years since I systematically reviewed theories of natural resource estimation, allocation, and management. We'll do it together.
Mr. Kates

357 REGIONAL WATER RESOURCES PLANNING

Refer to course description under Environmental Affairs 357. Also listed for credit as International Development 357.
Mr. Schwarz, Staff

358 PROFESSIONAL SEMINAR IN RESOURCE PROJECT EVALUATION

This seminar will cover best-practice applied methods of resource project evaluation as suggested by current research, the procedures of the World Bank and the leading U.S. resource agencies. The intent of the seminar is to bring advanced students to a level of preparation, adequate for professional work in resource project evaluation. Prerequisite: Geography 257 or equivalent.
Mr. Major

365 SEMINAR IN ECONOMIC GEOGRAPHY

Alternative approaches to location theory will be explored.
Mr. Peet

366 SEMINAR IN COLLEGE CURRICULUM DESIGN

Students will study the development of curriculum with supporting materials oriented toward college undergraduates. Learning in a problem context will be stressed. Also listed for credit as Education 366.
Mr. Knos

368 HISTORY OF GEOGRAPHIC THOUGHT

This is a course in the development of some major themes and schools of geographic thought. Prerequisite: course background in Geography.
Ms. Buttimer, Mr. Koelsch

371 RESEARCH SEMINAR
Systematic analysis of language and context in the development of geographic thought.
Ms. Buttimer

Geology

A program in geology with a full-time geologist and the assistance of other faculty members will be reinstituted. Course offerings in geomorphology are listed under physical geography.

While a major in geology is not currently available, students can plan a "self-designed major" to accomplish the same purpose.

COURSES

11 INTRODUCTION TO PHYSICAL GEOLOGY
The important geologic concepts needed to both understand our planet's structure and provide the foundation for advanced study in the geological sciences will be covered. Recent findings in geophysics, geochemistry, oceanography, and space science will be related to the subject matter of classical geology. Lecture, lab.
Staff

12 HISTORICAL GEOLOGY
The geologic history of continents, oceans, and the evolution of life through the ages, with emphasis on the North American continent will be studied.
Staff

111 INTRODUCTORY MINERALOGY
The study of crystallographic, physical, and chemical properties of common minerals will be undertaken. There will be a field trip and laboratory. Prerequisite: Geology 11.
Staff

131 STRUCTURAL GEOLOGY
Analysis of rock formation based on the principles of mechanics and the utilization of research data obtained from laboratory and field investigations will be studied. The principles of structural geology will be applied to the interpretation of major fold, fault, and fracture systems of the earth. There will be a field trip and laboratory. Prerequisite: Geology 11.
Staff

141 THE FOSSIL RECORD

This course is a systematic survey of the morphology, taxonomy, and geologic history of groups of organisms commonly found as fossils. The techniques and principles used for interpreting the fossil communities in terms of age and environment will be discussed. There will be a field trip and laboratory.
Staff

142 STRATIGRAPHY AND SEDIMENTATION

This is a survey of the principles and methods used to study layered rocks, their ages, fossil content, and correlation. Emphasis will be on sedimentary rocks and will include their classification and depositional processes and environments. Prerequisite: Geology 12 or permission of instructor. Field trip. Laboratory.
Staff

151 INTRODUCTORY FIELD METHODS

This is a survey course in field geology. This includes introductory methods in topographic and structural mapping, hydrogeology, and air photo interpretation. Numerous field excursions. Prerequisite: permission of instructor.
Staff

161 SPECIAL PROJECTS

Selected research topics in geology will be undertaken. Prerequisite: permission of instructor.
Staff

171 ENVIRONMENTAL GEOLOGY

The application of geological specialities to environmental problems will be studied. Geologic processes, earth resources, and engineering properties of rocks and surficial deposits, as important to human activities, will be emphasized. Prerequisite: Geology 11 or Geography 14. There will be lectures and discussions.
Staff

201 SEMINAR IN NEW ENGLAND GEOLOGY

The geology of the northern Appalachians, with emphasis on orogenic events, paleogeographic reconstructions, plate tectonics models for Appalachian folding, post-tectonic sedimentation, and glaciation. There will be individual projects and three local field trips. Prerequisite: Geology 11 or 12 and permission of instructor.
Staff

German

See Department of Foreign Languages and Literatures.

Government and International Relations

DEPARTMENT FACULTY

Cynthia H. Enloe, Ph.D., Professor of Government, Department Chair
John C. Blydenburgh, Ph.D., Professor of Government; Director of Graduate Studies
Morris H. Cohen, Ph.D., Professor of Government, Representative of Washington Semester Program
Roger E. Kasperson, Ph.D., Professor of Government and Geography
Sherman S. Hayden, Ph.D., Professor of International Relations, Emeritus
Ronald P. Formisano, Ph.D., Associate Professor of American History and Adjunct Associate Professor of Government
Sharon P. Krefetz, Ph.D., Associate Professor of Government
Knud Rasmussen, Ph.D., Associate Professor of Government
Ann T. Schulz, Ph.D., Research Associate Professor of Government
Peter B. Natchez, Ph.D., Assistant Professor of Government
Zenovia A. Sochor, Ph.D., Assistant Professor of Government
Kent C. Trachte, Ph.D., Assistant Professor of Government
Charles N. Coleman, M.A., Visiting Lecturer of Public Administration

UNDERGRADUATE PROGRAM

The basic premise of the program in the Department of Government and International Relations is that the knowledge that is the product of political research is not different fundamentally from the knowledge that is useful to a political actor. The implication of this point for our program is that the same curriculum that effectively trains potential political actors, be they citizen or public servant, can prepare a person for a career as a scholar.

The identity of political science as a discipline, like most of the social sciences, suffers because there is no "nonacademic" profession associated with it. If there were, the problem of setting up program criteria would be trivial. We have no illusions about remedying this deficiency with a program designed to train professional politicians or government workers. Nevertheless, we sincerely hope that some of our students will go on to careers in the municipal, state, and federal government, and, of course, the many public careers outside government—journalism, law, public interest organizations, business, and education.

The aim of the department, therefore, is to train all students, who come in contact with us, to be more competent political actors—at whatever level they choose—than they would have been had they not come in contact with us. For the government major, we have the additional aim that he or she should be able to acquire from us knowledge that would complement a career in the practice or the study of public affairs.

The focus of politics is the future—what the state will be and what it should be. These, too, are the central problems of political science: the development of predictive theory based on a clear conception of the present, and the establishment of a critical perspective from which to evaluate and explore normative political theory. Therefore, we see three components, three types of political education, that make up an effective political science curriculum: (1) a description of the present, (2) the concepts and skills useful for constructing predictive theory, (3) the intellectual skills necessary for critically evaluating normative theory.

Descriptive Component

First, an effective political science curriculum should provide useful information about politics and government; students exposed to the curriculum should have a knowledge of political and governmental institutions, their operations, their interrelationships, and their role in political systems. The curriculum includes the provision of skills useful in measuring and analyzing information about politics and government. In short, the curriculum should provide an accurate description of the politics and government that students are likely to encounter in their lives after Clark.

Predictive Component

Information about politics and government is not sufficient for understanding. To understand means, at least in part, to have prudent expectations about the future: the effective political actor must be able to make useful predictions. Thus, we aim to provide models and theories with which students can use present information to make inferences about the future.

Normative Component

Although political argument is prompted by uncertainty, it is needed to solve ideological differences. Thus, the third component of an effective curriculum is the development of analytic skills useful for evaluating normative judgments about politics and government. The successful political actor, as citizen or professional is constantly exposed to arguments about how the state ought to be. The critical thinker—the competent analyst of normative political argument—will be among the most effective participants in an open society.

The Government Major

The structure of the major is meant to accomplish these three goals while providing for the nonmajor as a byproduct. The major consists of program requirements and a subfield specialization in which the major chooses to explore a narrower field in greater depth. In a costless world it would be difficult to choose an ideal set of subfields. Our position is that the subfields we offer should be those in which we feel competent; thus, until and unless resources change, we will regularly offer four: American politics, comparative politics, international relations, and public policy and administration. While we will not foreclose other options, a major normally is expected to choose from among these four. Exceptional students have the additional option of participating in the departmental senior thesis program in the senior year.

Program Requirements

The major is required to take a total of nine government courses, Government 103, three subfield related courses, and Economics 10. All majors are required to take a total of nine government courses, Government 103, Introduction to Political Investigation. This course aims to introduce and develop skills in analyzing normative argument, formal political theory, and the principles of empirical investigation. The course is taught with a standard structure, aims, and assignments, but not with standard substance. The substantive content of the course can vary with the instructor because the aims of the course can be achieved using readings and research from any of the conventional subfields of political science.

A current list of subfield related courses is published in the Government Department Handbook.

The relationship between politics and economics and between the respective disciplines is so fundamental that all majors are required to take Economics 10.

The remaining program course requirements are two: (1) one course in normative political theory and, (2) one course in research skills applicable to the major's subfield. The normative theory requirement can be satisfied with any of the theory courses offered in the Department of Government and International Relations, though ordinarily most students are expected to meet the requirement with 205 or 206. The research skills requirement can be met with 107 (Research Methods in Politics) or with an appropriate course from another discipline.

Subfield Specialization

The major must take one subfield introductory course, two additional government courses in that subfield, and three related courses from other disciplines. Three government courses must be selected from outside the subfield. (Lists of related courses for each subfield are available in the Department of Government and International Relations Office.) Each of these three major disciplinary subfields are, themselves, open to a variety of topical emphases, thus allowing flexibility for undergraduate course selection.

In sum, the major requirements are:

Government 103
Economics 10
one research methods course
one normative political theory course
A subfield specialization including an introductory course and two other courses
three subfield related courses
three government courses not in the subfield

SENIOR THESIS PROGRAM

The Senior Thesis Program is intended to give the exceptional senior an opportunity to pursue an intensive course of study of her/his own choosing under the direction of a member of the Government Department faculty. The program culminates in a thesis completed during the last term of the senior year. The program normally consists of one credit per term beginning the first term of the senior year.

The thesis must be in completed form two weeks prior to the final semester of the program.

Any government major with a grade point average of 3.20 or better who is interested in pursuing an intensive course of study in a particular area is eligible to participate in the Senior Thesis Program. In special cases students with a GPA of 3.0 or better can qualify with provisional status. Provisional status means that the student begins an independent study project, which is then reviewed by the department faculty after one semester when a final decision on admission is made.

Applications should be submitted to the chairman of the Government Department before the completion of the term preceding the semester in which the applicant wishes to begin a program.

A complete application consists of a one- or two-page typed proposal describing the student's project and course of study and a transcript of the applicant's academic record. Proposals are expected to be substantial, containing a fairly specific statement of hypotheses or theories to be tested, questions to be explored, and the method and research to be used in the program.

All applications are reviewed at a meeting of the faculty of the Government Department. Applicants are evaluated as to their ability to work independently, intellectual ability, the appropriateness of their acquired skills, and other factors that indicate the likelihood that the applicant can successfully complete the program. Each applicant will receive notification of the department's decision on his or her case. Review or appeal of the decision can be made through the department chairman.

HONORS IN GOVERNMENT

Outstanding senior theses may be nominated for departmental honors. Initial nomination of a thesis for consideration for honors normally will come from the first reader of the thesis (the faculty adviser). If a participant wishes her or his thesis to be considered for honors, a first draft must be completed by midterm of the last semester of the program.

When a thesis is nominated for honors, the department appoints an Honors Committee composed of three faculty members, including the first reader, to supervise the completion of the program.

A completed thesis must be submitted to the Honors Committee by April 1 (December 1 for January graduates).

At the conclusion of the program, the honors candidate will be given a comprehensive oral examination, administered by the Honors Committee, covering the thesis and its field. According to the committee's evaluation of the thesis and the comprehensive exam, the faculty will decide whether or not to award the student honors and, if honors is awarded, whether it is honors, high honors or highest honors.

STUDENT HANDBOOK

The Government Department annually publishes a handbook, which has a more extensive description of programs, courses, and faculty, as well as other information relevant to the major or interested student. Copies are available in the Academic Center, Room 302.

PUBLIC AFFAIRS RESEARCH CENTER

The Public Affairs Research Center (PARC) is a research branch of the Government Department. PARC conducts a series of regularly scheduled sample surveys of the Massachusetts adult population. The purpose of the surveys is to assess the sentiments of Massachusetts residents about specific and timely public issues, as well as attitudes and behavior of a more general and continuing nature. The results of the surveys are released to the news media and public officials and are available to the general public upon request. PARC plans to expand these surveys to the entire New England region in the near future. In addition to sample surveys, PARC also conducts contract research in the area of policy analysis.

PARC is an important educational resource within the Clark community. Students interested in courses in public opinion, survey research, decision making, and campaigning will find such courses offered by Government

Department faculty. Students interested in practical experience in a research center can take advantage of the internships and special projects available in PARC. And students interested in part-time employment as interviewers for PARC's statewide surveys will have the opportunity to combine both part-time work and an interesting educational experience.

The program is administered by Professor Blydenburgh.

GRADUATE STUDIES

The Undergraduate/Graduate Program in Public Administration (B.A./M.P.A.) provides the opportunity to begin professional training in this field as an undergraduate and complete the Master of Public Administration in a fifth calendar year of full time study. The program is open to all liberal arts majors at Clark, though majors in a social science discipline will find it easier to complete the undergraduate requirements. Participation in the B.A./M.P.A. program involves a substantial commitment and a participant's choice of electives will be limited by M.P.A. preparation requirements. Students interested in the program should seek the advice of the program director as early in their undergraduate career as possible. A description of program courses and requirements is available in the M.P.A. catalog.

The department also admits a limited number of M.A. candidates who are interested in pursuing study in public policy research and closely related fields.

PROGRAM AND GENERAL COURSES

77 INTERNSHIP

Offered for variable credit.
Staff

88 DIRECTED READINGS

Offered for variable credit.
Staff

89 SPECIAL PROJECTS

Offered for variable credit.
Staff

360 GRADUATE READINGS COURSES

Offered for variable credit.
Staff

361 GRADUATE THESIS COURSE

Offered for variable credit.
Staff

103 INTRODUCTION TO POLITICAL INVESTIGATION

This course is designed for intended majors. Students wishing to get a general survey of the discipline are urged to take another 100-level offering. What is politics? People in the world of politics—ideologies and the quest for power. Theoretical and empirical approaches to the study of politics are considered. Techniques of political analysis are applied in a variety of settings. Topics vary by section, but common assignments are used to develop research and analytical skills. Students who have completed Government 180 are not eligible to take Government 103.
Staff

107 RESEARCH METHODS IN POLITICS

Students are exposed to some of the basic tools useful for analyzing and creating data in political research. Included are some elementary non-parametric statistics, hypothesis testing, and measurement theory.
Mr. Blydenburgh

202 APPLICATIONS OF GAME THEORY

Game theory was invented by John Von Neuman in the 1920s as a language and a logic for analyzing human conflict. It purports to be useful (and your professor believes it is) to systematically identify the best strategies for resolving many types of conflicts. Emphasis in this course is on understanding and applying the language and the logic. But a substantial amount of the course will deal with applications and illustrations, for example, to international relations, nuclear confrontation, political campaigning, and a host of other real-life situations. Emphasis is on "two-person" models with a selective review of "n-person" models. You will learn how to use bargaining, threats, commitments, mediators, ignorance, and power in resolving conflicts.
Mr. Blydenburgh

205 ROOTS OF POLITICAL THOUGHT

A study of the development of Western political thought from the Socratic philosophies to Hobbes. The study deals with the evolution of political thought in the context of influential, social, political, and economic forces.
Mr. Rasmussen

206 RECENT POLITICAL THEORY

A study of modern political theory as developed in the context of the social, political, and economic forces that have shaped Western thought since the French Revolution.
Mr. Rasmussen

290 PUBLIC OPINION POLLING AND SURVEY RESEARCH

An introduction to the study of public opinion polling and survey research. Content includes both theoretical and practical aspects of survey research methodology, each of which are analyzed from a critical perspective.
Staff

295 WRITING FOR UPPER DIVISION STUDENTS IN HISTORY AND THE SOCIAL SCIENCES

Refer to course description under History 295.
Mr. Von Laue

297 SENIOR THESIS IN GOVERNMENT AND INTERNATIONAL RELATIONS

Offered for variable credit.
Staff

370 POLITICAL SCIENCE RESEARCH: TECHNIQUES AND METHODS

The major concern of this seminar will be in gaining an understanding of those social science techniques and methods most appropriate to conducting political science research. The course will begin with consideration of how one develops a research design, generates hypotheses, and builds theories. General topics to be discussed include causal thinking, the notion of controls, and the concepts of validity and reliability. Specific topics will

include survey research, aggregate analysis, content analysis, simulation, correlation and regression analysis, and factor analysis. In addition, special attention will be given to problems involved with doing cross-cultural research and analyses through time. Open to graduate students and to advanced undergraduates, with the permission of instructor.
Staff

INTERNATIONAL RELATIONS COURSES

(Also, see section on International Relations.)

169 INTRODUCTION TO INTERNATIONAL RELATIONS

This course is designed to equip the student with the analytic and conceptual tools to make sense out of the many complexities of international politics. We begin from the prevailing state-centric view of the discipline organized around the concepts of nation-state, sovereignty, power, perception, system, deterrence, verbal strategy, and reciprocity. Next, we explore challenges to this approach including liberal neoclassical political economy, transnationalism, structuralism and the Marxist theory of imperialism. These afford us the opportunity to explore transnational corporations, the united nation system, international monetary, trade, and financial structures and institutions, and class conflict. We conclude with a consideration of the concept of global community.
Mr. Trachte

210 INTERNATIONAL ORGANIZATIONS IN WORLD POLITICS

Thirty years ago international organizations such as the United Nations expressed the hopes of human society for a more peaceful world order. These utopian hopes were soon disappointed and interest in such organizations waned. More recently the perception of interpenetration of national economies; the recognition that energy, environmental, and disarmament issues among others are global problems; and the development of a Third World alliance have regenerated interest in international organizations. This course surveys functionalism, neo-functionalism, and supranationalism as explanations of the emergence of such organizations. We also examine selected "I.O's" such as the OAS, the EEC, OPEC, and the World Bank. Extensive attention is paid to the United Nations system in all its complexity. This course is a prerequisite and preparation for participation in the Model United Nations Program. Government 169 is recommended.
Mr. Trachte

212 POLITICS OF ADVANCED INDUSTRIAL SOCIETIES

This is an examination of the political, social, and economic structures of western Europe, Japan, and the United States, with particular focus on some of the major issues in social welfare and industrial policies confronting advanced industrial societies.
Staff

239 U.S. FOREIGN POLICY

This course takes an analytic and historical approach to U.S. foreign policy. First, we identify and distinguish several alternative paradigms for understanding foreign policy. Contrary to the dominant media image, we find that facts are contingent upon one's perspective. What you see depends upon which glasses—orthodox, economic revisionist, ideological revisionist, neorvisionist—you wear. Second, we survey chronologically

the strategic, economic, and systemic aspects of U.S. foreign policy since WW II.
Mr. Trachte

245 INTERNATIONAL ORGANIZATIONS AND DEVELOPMENT

This course examines the role international organizations play in the political economy of international development. Do these organizations serve the needs and interests of the less developed countries, or are they instruments for facilitating the further accumulation of international capital? How much influence do these organizations exercise over development planning in Third World countries? Organizations examined include intergovernmental organizations such as the IMF, World Bank, Inter-American Development Bank, and UNCTAD as well as nongovernmental organizations such as transnational corporations.
Mr. Trachte

249 INTERNATIONAL POLITICAL ECONOMY

This course examines how international economic relationships involving trade, capital transfers, and population (labor) movements affect domestic political and economic development. Topics discussed include imperialism, dependency, interdependence, and integration. The focus is not limited to less developed countries. Equal weight is given to the examination of industrialized nations.
Mr. Trachte

283 SEMINAR: THE SUPERPOWERS AND THE THIRD WORLD

The course examines North-South relations within the broader framework of East-West conflict and cooperation. Emphasis is placed on "superpower" perspectives on development and foreign policy objectives in the Third World. Issues to be covered include trade, energy sources, arms sales, and strategic concerns. Relevant countries from each of the major regions of the Third World are selected for study. Some previous courses in international relations are helpful.
Ms. Sochor

289 SEMINAR IN ADVANCED TOPICS IN INTERNATIONAL RELATIONS

The substantive content of this course varies with the interests of the instructor. Possible topics include issues in international development, multinational corporations, the New International Economic Order, or issues in U.S. foreign policy. The course is designed principally for advanced students concentrating in international relations. Other students may be admitted by permission of the instructor. Also listed for credit as History 291.
Mr. Trachte

AMERICAN POLITICS COURSES

150 INTRODUCTION TO AMERICAN GOVERNMENT

This is an introductory study of the processes and efficacy of the American governmental system. Primarily devoted to an overview of contemporary aspects of the national government, the course includes problems of federalism, salient civil liberties issues, and the roles of Congress, the President, the Supreme Court, and political parties in the decision making process.
Mr. Cohen

172 SUBURBIA: PEOPLE AND POLITICS

The growth of suburbs in the United States since the end of World War II has had considerable impact upon the nature of our metropolitan areas. Why has this growth occurred? What are the characteristics of the people who live in suburbs? Is suburban homogeneity a myth or reality? How are suburbs governed? What is political participation like? What sorts of issues are important to suburbanites? Is there a national suburban policy? Should there be one? These are the major questions to be explored in this course. This course is open to sophomores, juniors, and seniors.

Ms. Krefetz

175 WOMEN AND POLITICS

This is an exploration of the political behavior of American women and of the factors which condition their behavior, including: socialization and learning of sex roles, social background and life situation variables, and historical arrangements of political institutions. Among the questions to be considered are: Why are women generally less interested, less active, and less efficacious politically than men are? What are the characteristics of those women who do engage in political activity? What is the likely impact of the women's liberation movement and women's issues on the future behavior of women in politics? Prerequisite: one previous government course.

Ms. Krefetz

204 SEMINAR IN AMERICAN PRESIDENCY

This is a study of the constitutional and other powers and functions of the president and the presidency via selected readings and individual research.

Mr. Cohen

209 THE U.S. SINCE 1945

Refer to course description under History 209.

Mr. Formisano

214 SEMINAR: BUSINESS AND POLITICS

This course examines the social responsibility of business to a community from a theoretical and a practical point of view. The theoretical aspects are explored through a series of readings of major writers in this area. The practical aspects are dealt with through the use of community resources in, for example, the legal, educational, and political sectors. This course takes the place of the tutorial program; it will, therefore, offer the latitude of individualized reports in specific areas of interest. Enrollment is limited to 20 students.

Mr. Rasmussen

220 URBAN GOVERNMENT AND POLITICS

The primary focus of this course is on the various socioeconomic and political forces that affect American urban political systems. What are the resources and constraints on decision makers? Topics discussed include: the social, economic, and political nature of the city; the effects of the state and federal governments; relations between city and suburb; political structures and styles; the distribution of power; and race, ethnicity, and ethos theory. Later in the course, some attention is given to differences in urban policy outputs, primarily in the fields of education and welfare. Where relevant, differences and similarities in the politics of urban areas outside the United States are considered. Open to sophomores, juniors, and seniors.

Ms. Krefetz

221 SEMINAR: PUBLIC POLICIES AND AMERICAN CITIES

What difference does it make "who governs?" What sorts of variations are there among cities in their policy outputs in such areas as welfare, education, poverty, health, the police, and the criminal courts; and what accounts for the differences? After a critical review of the existing literature, research will be conducted on a policy area of the student's choosing in Worcester and/or other cities. Prerequisite: Government 220.
Ms. Krefetz

223 SUBURBAN POLICY ISSUES

This seminar will pick up where the introductory suburban politics course leaves off and explore politics and policy making on several major issues in suburban communities, e.g., zoning and land use, education, and property taxes. Students will conduct original research on these issues in Worcester and Boston suburbs. Prerequisite: Government 221 or permission of instructor. The course is limited to 15 students.
Ms. Krefetz

224 BLACK POLITICS IN THE UNITED STATES

This course analyzes the distribution of power as it affects the Black community. Among those topics to be explored are: Black congressmen and lobbies, Black politics in cities, the impact of Blacks on the bureaucracy, and a comparison of Northern and Southern Black politics. Also listed for credit as International Development 225.
Ms. Enloe

225 POLITICS OF BUREAUCRACIES

Bureaucrats are among the most neglected—and influential—actors in contemporary politics. This course examines the dynamics of bureaucratic politics in the U.S., with a special concern for federal level departments. Some of the questions pursued are: How much control does the White House exercise over federal agencies? Has "Watergate" had a lasting impact on bureaucratic operations? Why are some departments, such as treasury and defense, so much more influential in bureaucratic competition than others? How do bureaucrats cultivate their clienteles? This course is open to majors and nonmajors. Some previous courses in government will be helpful.
Ms. Enloe

231 SEMINAR IN POLITICS AND ENVIRONMENT

Refer to course description under Geography 231. Also listed for credit as Environmental Affairs 231.
Mr. Kasperson

251 AMERICAN POLITICAL PARTIES AND PRESSURE GROUPS

This is a study of the structure and functioning of the American party system and the role of selected interest groups in American politics, including some ethnic and economic influences. Special emphasis is placed on the processes and problems involved in the nomination and election of the president. Prerequisite: American Government desirable, but not required.
Mr. Cohen

253 AMERICAN CONSTITUTIONAL LAW—NON-CIVIL LIBERTIES ASPECTS

This is a study of the major non-civil liberties developments and problems of American constitutional law and judicial behavior approached primarily

by analysis of court cases. Both topical and, in some areas, developmental analyses are utilized. Major areas covered are: the constitutional powers of the three branches of the government, federalism, the development of the commerce and taxing powers, contract clauses, and the development of due process. Emphasis on class discussion. Prerequisite: permission of instructor.
Mr. Cohen

254 AMERICAN CONSTITUTIONAL LAW AND CIVIL LIBERTIES

This is a study of some of the major developments and problems of American constitutional law and judicial behavior in the area of civil liberties approached primarily by the case method. Topics usually explored include such issues as freedom of speech, press and religion, and civil rights. Opportunities are afforded for a study of selected aspects of the rights of a person accused of a crime. Emphasis is placed on recent and contemporary developments and on class discussion. Prerequisite: permission of instructor. Also listed for credit as History 235.
Mr. Cohen

255 SEMINAR IN THE LEGISLATIVE PROCESS

This is a study of policy making in Congress, involving problems of legislative organization and procedure, leadership, and presidential-legislative relationships; examined primarily by the case method and by individual research on particular pieces of recent legislation. Prerequisite: permission of instructor. The course is limited to 10 students.
Mr. Cohen

275 CITIZEN PARTICIPATION IN PLANNING

Refer to course description under Geography 275. Also listed for credit as Environmental Affairs 275 and Science, Technology and Society 275.
Mr. Ducsik, Mr. Kasperson

294 ELECTORAL BEHAVIOR

Contemporary studies of voting behavior are used to explore the meaning of elections as the linkage between government and citizenry. The course addresses the questions of who votes and why, and it aims to identify and explain long-term trends in elections by focusing on the theory, methods, and data of recent political research.
Mr. Blydenburgh

COMPARATIVE POLITICS COURSES

106 INTRODUCTION TO COMPARATIVE POLITICS

The course approaches the pitfalls and rewards of comparative analysis from three directions. First, we concentrate on a single foreign political system in all its complexity (e.g., Britain, Mexico, Japan). Second, we look at one political issue (e.g., pollution, crime, land reform) to see how several different countries cope with demands. Finally, we examine one concept used by political scientists to compare political systems (e.g., recruitment, ideology). This course is open to majors and nonmajors.
Ms. Sochor

108 COMPARATIVE POLITICS OF WOMEN

This course examines the roles, influence, and participation of women in several different political systems. Changes—and lack of genuine changes—in women's political status are compared within the context of the entire political system (ideologies, bureaucratic organizations, party

systems, class and ethnic cleavages, etc.). At least one previous course in government or women's studies is strongly advised.
Ms. Enloe

112 COMPARATIVE AUTHORITARIAN SYSTEMS

The course focuses on the most conspicuous political fact of modern times—authoritarianism. Through a comparative study of several authoritarian regimes, the course seeks to understand the dynamics of modern authoritarianism: its inception and structure, its transitional or permanent nature, and its distinct variations. The course examines selected case studies from Europe, Latin America, and the Middle East.
Ms. Sochor

182 COMPARATIVE EUROPEAN POLITICAL SYSTEMS

A comparative study of the major west European political systems. Study of the political historic development will lay the basis for comparison of modern functions of government. Stress is placed on political socialization and its importance for comparative politics.
Mr. Rasmussen

217 REVOLUTION AND POLITICAL VIOLENCE

The course examines the concept, the origins, and the process of revolutionary change. Topics to be covered include the pre-conditions of revolution, the role of leaders and organizational tactics, the problems and consequences of the seizure of power, and the potential for deradicalization and counter-revolution. Theories of revolution are studied from the perspective of revolutionary leaders as well as social scientists. Various revolutionary situations are examined in the course, but some previous familiarity with a major revolution (e.g., French, Soviet, Chinese) is useful.
Ms. Sochor

222 STRATEGIES OF DEVELOPMENT AND CHANGE IN COMMUNIST POLITICAL SYSTEMS

The course examines the relationship between ideology, power, and levels of economic development in the formation of communist political systems. Particular attention is given to the attempts by political leaders to devise strategies of development appropriate to their socio-political contexts. The course also considers continuing sources of social change and the domestic and international constraints on change. The comparative study will include China, Cuba, Yugoslavia, and the Soviet Union as the prototype of a communist political system.
Ms. Sochor

226 POLITICS OF THE MIDDLE EAST

Political change within Middle Eastern countries from North Africa to Afghanistan studied. Attention is given to social structure, styles of political competition, leaders and ideologies, and the relationship between political and economic life.
Staff

228 SEMINAR IN PROBLEMS IN COMPARATIVE POLITICS: ETHNIC CONFLICT

This seminar explores the meaning of "ethnicity" for groups as different as South African Afrikaners, Iraqi Kurds, and French Canadians in the context of political development and political conflict. Some previous study of comparative politics, history, or sociology will be very useful.
Ms. Enloe

235 COMPARATIVE BUREAUCRATIC POLITICS
In both industrialized and developing nations, bureaucratic departments have been critical to policy making and implementation. This course uses cases from Europe, Africa, and Asia to test generalizations about bureaucrats' impact on their political systems.
Ms. Enloe

236 POLITICS OF SOUTHEAST ASIA
This course analyzes the changes, or blockage of changes, that have occurred in the area since 1945. Social, economic, cultural, and foreign factors shaping politics are examined. All countries will be discussed but focus will be on Malaysia, Indonesia, the Phillippines, and Vietnam.
Ms. Enloe

237 POLITICS OF SCANDINAVIA
This course analyzes twentieth-century political thinking with specific reference to Scandinavian thought and political systems. The examination is of major trends as they constitute unique Scandinavian developments or reflect a broader European pattern of thinking.
Mr. Rasmussen

251 COMPARATIVE REVOLUTIONS
Refer to course description under History 251.
Mr. Lucas

256 GOVERNMENT AND POLITICS OF THE SOVIET UNION
The course examines the key factors in the formation, evolution, and operation of the Soviet political system. Topics to be discussed include the interaction between ideology and political culture, the role of the Communist Party in Soviet government and society, problems of development and socioeconomic transformation, and the challenge of political conflict and change.
Ms. Sochor

266 ETHNOLOGY AND POLITICS OF THE CARIBBEAN
Refer to course description under Sociology 220. Also listed for credit as International Development 266.
Mr. Gerber, Mr. Rasmussen

258 ADVANCED ETHNOLOGY OF THE CARIBBEAN
This course is an advanced seminar in which selected islands within the Caribbean are studied in depth. The course centers on issues of politics, political change, and problems of development.
Mr. Rasmussen

265 POLITICS OF JAPAN
Japan is considered one of the world's four great powers. Yet its international political dynamics are not widely understood by Americans. This course will explore the major factors that have shaped Japanese politics and government policies since 1945. Among the topics that will be analyzed are: the group loyalties of Japanese, the factional rivalries within major parties, the influence of bureaucrats, the ambivalence that plagues Japan's foreign relations. The course is open to majors and nonmajors.

Those interested in pre-1945 Japan are urged to take the course offered in History. Some previous courses either in Government or in Asian Studies are helpful.
Ms. Enloe

PUBLIC POLICY AND ADMINISTRATION

109 INTRODUCTION TO PUBLIC POLICY AND ADMINISTRATION

This course focuses on the administrative dimension of the public policy making and policy implementation process. The course describes the environmental setting of American public administration, describes selected problems and perspectives in public administration, explicates the historical and philosophical context of administrative action, reviews the procedural and institutional networks in the administrative process, and presents selected frameworks utilized for organizing the technical dimension of the policy process. Prerequisite: Government 150 or permission of instructor.
Mr. Coleman

213 POLICY ANALYSIS

Policy analysis is a means of critically examining public programs to provide decision makers with information on which to make policy decisions. Policy analysts use a variety of techniques, such as evaluation research, program budgeting, and survey research. In times of financial and political crises, when governments must make critical choices, the work of the policy analyst is crucial. This course examines(1) the purpose and context of policy analysis, (2) the various methods that are used in doing it, and (3) the implementation requirements and constraints involved in applied policy research. Both theoretical and applied case materials are used in this course.
Mr. Natchez

233 GEOGRAPHY OF PUBLIC SERVICES

Refer to course description under Geography 233.
Staff

269 PUBLIC POLICY AND MACHIAVELLI REVISITED

An in-depth analysis of Machiavelli's political theory and approach to policy making. The course differentiates between normative theory and objective analysis. In the process, themes developed by Machiavelli are applied to current policy formation and models for public policy analysis.
Mr. Rasmussen

271 POLITICS AND ECONOMIC POLICY

This course examines economic policies that have been produced by the American political system during the New Deal and Post New Deal periods. This course examines fiscal and monetary policies, efforts to moderate prices, and employment policies not merely in terms of their technical standing in economic theory but equally in terms of the working assumptions made by the political elite and the mass public.
Mr. Natchez

282 SEMINAR ON HOUSING POLICIES

A critical examination of federal housing policies and state and local

zoning and land use regulations. The major political, economic, and cultural factors that shape the supply, quality, and location of housing and various income, age, and racial groupings in metropolitan areas are explored, with special attention to public housing and exclusionary zoning issues.
Ms. Krefetz

298 PUBLIC CHOICE THEORY
Reviews some important recent political theories which make use of economic concepts in attempting to explain political phenomena. Emphasis is placed on evaluating the theory in terms of its success in accounting for established empirical propositions as well as its prescriptive uses and normative implications. Some of the subjects covered are theories of representative government, a theory of the organization and formation of groups, theories of voting systems, and a theory of bureaucratic behavior.
Mr. Blydenburgh

Hebrew

See Department of Foreign Languages and Literatures.

History

DEPARTMENT FACULTY

Daniel R. Borg, Ph.D., Associate Professor of European History, Department Chair
George A. Billias, Ph.D., Professor of American History
Ronald P. Formisano, Ph.D., Professor of American History
Tamara K. Hareven, Ph.D., Professor of American History
Dwight E. Lee, Ph.D., Professor of European History, Emeritus
Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of European History
Richard B. Ford, Ph.D., Associate Professor of African and Comparative History, Codirector, International Development
Paul Lucas, Ph.D., Associate Professor of European History
Douglas J. Little, Ph.D., Assistant Professor of American History
Paul F. Burke Jr., Ph.D., Adjunct in History
William Koelsch, Ph.D., Adjunct in History, University Archivist
Thomas C. Barrow, Ph.D., Affiliate in History
Marcus A. McCorison, M.S., Director of the American Antiquarian Society, Affiliate in History

UNDERGRADUATE PROGRAM

Students choose a history major for different reasons. Those preparing for careers in government, law, and sometimes business choose the major for the opportunity it offers in gaining insight into the diversity of human affairs. They desire a humanistic study geared toward a practical end. Others view the history major as the broadest and most flexible one in which to study their particular interests from a number of perspectives.

Some are committed historians before they arrive at Clark. Their counterparts are those who become history majors by a process of elimination. For history majors and nonmajors alike, history provides an insight into their own individual and collective pasts and, therefore, into their own identities. History courses also introduce them to the non-Western world by giving them some understanding of the historical evolution of other peoples and cultures.

UNDERGRADUATE MAJOR

(Consult the handbook for undergraduates, *Studying History at Clark,* for an elaboration of the major and its options. The handbook is available in the History Office.)

The department is presently implementing new major requirements. If you entered Clark as a freshman before 1978 or as a transfer student in 1978 or before, the *old major requirements* still apply to you:

a) You take *nine* history courses and *three* related courses in Economics, Geography, Government, Psychology, and Sociology.
b) Of the nine history courses,
    1) *two* must be 200-level courses in American history, and
    2) *two* must be 200-level courses in non-American history.

If you entered Clark as a freshman in 1978 or after, you must meet the *new major requirements:*

a) You take *nine* history courses and *four* related courses in either the humanities or the social sciences.
b) Of the nine history courses,
    1) *one* must be an introductory course (either History 110, 120, 170, 171, or 190) preferably taken in your freshman year;
    2) *two* must be 200-level courses in American history;
    3) *two* must be 200-level courses in non-American history; and
    4) *one* must be a "capstone" course, usually taken in the senior year.
c) Your capstone course is determined by whichever of three tracks you choose to follow in your major:
    1) For Track I: History 289, THE CONTEMPORARY AGE IN GLOBAL PERSPECTIVE
    2) For Track II, one of the following:
        History 204, COLLOQUIUM: INTERPRETATIONS OF AMERICAN HISTORY TO 1815
        History 210, COLLOQUIUM: INTERPRETATIONS OF AMERICAN HISTORY SINCE 1815
        History 296, PRACTICUM IN THE TEACHING OF HISTORY
        History 197, RESEARCH PROJECTS (in your concentration)
        History 298, DIRECTED READINGS (in your concentration)
    3) For Track III: History 293, HONORS THESIS RESEARCH

The Three Tracks

In the new major, the department requires you to follow one of three tracks that indicate different levels of involvement in historical studies. Track I is designed for those who have a general focus in either the humanities or the social sciences. If you have a more specific interest, the department suggests that you follow Track II where you can "concentrate." Finally, if you wish to write a research thesis and take a comprehensive examination in your "concentration," you should follow Track III, the honors track. Your transcript will reflect which track you have followed.

Track I: For General Majors

Follow the general requirements, taking History 289, as the capstone.

Track II: For Majors Who Wish to Concentrate Courses Around Some Topic

As in Track I, you choose your history courses and related courses in one of the divisions (humanities or social sciences) according to your interests. Track II presupposes, however, that you have refined your interest to the point of concentrating specifically in some historical theme. You might wish, for example, to concentrate in American or Jewish thought and culture, or in European studies and choose some theme within one of these, by which you select history and related courses. The handbook for undergraduates *Studying History at Clark* contains examples of course choices for themes within each of these three concentrations. The history staff also has worked out hypothetical sequences of courses around some theme in each of twenty-five concentrations. These examples are available in the History Office, in the library at the reserve desk, and in the office of each history adviser. Of course, you define your own theme in whatever concentration you choose. The capstone course you choose should serve to develop your concentration.

Structured Concentrations

You may opt to follow a structured concentration (requiring certain courses) in two areas:

American Studies
International Relations

Consult the requirements under each of the above concentrations in this catalog. Structured concentrations are interdisciplinary programs involving other departments. You may construct your own concentration in American studies, but it would be called American civilization.

Track III: For Honors Majors in Concentrations

As in Track I, you choose the divisional emphasis (humanities or social sciences) and, as in Track II, a concentration. You write a research thesis on some topic in your concentration (two course credits) and take a comprehensive examination on the theme of your concentration (after a reading course of one credit), both in your senior year. Honors students also take History 292, the honors proseminar, in their sophomore or junior years. The honors track is valuable not only for would-be professional historians, but also for those who intend to pursue any career that requires analysis of complex issues and good writing. (A brochure on the honors program is available in the History Office.)

The new major is not formally a structured major; no single course nor sequence of courses is required. The formal requirements, the tracks, and the examples of concentrations available for your inspection are meant to help you plan a coherent major according to your interests. In these examples, the department has tried to accommodate interests of majors as varied as social history, Russian studies, Black history, American political history, and German thought and culture.

Lack of a more precise formal structure in the major does not imply that you should ignore giving structure to your major. You should consult your adviser at registration each semester to help plan your course of study at Clark.

GRADUATE PROGRAM

The areas of graduate study at Clark are American history and modern European history, with select non-Western history as supporting fields. Emphasis is placed on American history because of the department's affiliation with the American Antiquarian Society, which provides graduate students with the facilities of one of the country's finest research libraries, with over 750,000 volumes and many valuable manuscripts relating to early American history prior to 1876. A dozen smaller libraries in Worcester, with combined holdings of over a million volumes, further extend the resources of the Clark library, as does easy access to Boston, Providence, and New Haven area research facilities.

The department offers graduate work in the form of reading seminars (colloquia), research seminars, and individual tutorials for both reading and research purposes. First and second year students take three courses each semester; one of these courses must be expressly devoted to research for the purpose of producing a substantial research paper. Beyond their research seminar, students fill out their program by taking colloquia, additional research seminars, and upper-division undergraduate courses. The chairman assigns incoming graduate students to faculty advisers, who help design student programs. With the permission of the adviser, a student is encouraged to take suitable courses in other departments or Consortium colleges.

MASTER OF ARTS

The department enrolls a limited number of terminal master's candidates and awards the degree to students who have completed the work of eight courses and one-year residence requirement; have (1) either submitted two substantial research papers prepared in two seminars, which are jointly equivalent to the master's thesis, or (2) submitted a master's thesis; and have passed the required oral examination.

Ph.D. candidates, who have passed their preliminary examination, (whether or not they will continue with a dissertation) may also receive the degree of master of arts.

CERTIFICATE OF ADVANCED GRADUATE STUDY (C.A.G.S.) IN INTERDISCIPLINARY STUDIES

With the departments of English and Modern Languages, the department sponsors an interdisciplinary C.A.G.S. Students, who have already earned the master's degree, take eight courses that center around the area of their interest. A brochure is available in the office of the History Department.

DOCTOR OF PHILOSOPHY

The traditional doctoral program is designed to enable students to master the discipline of history through research, reading, and teaching. In addition to meeting the seminar and course requirements outlined above, a student who enters without an M.A. degree must spend at least three years in full-time residence at Clark, satisfy the language requirement, gain some experience in college teaching, pass the preliminary examination, and write a doctoral dissertation within seven years of matriculation.

Language Requirement: Students concentrating in American and British history must pass an examination in one foreign language: French, German, Spanish, or Russian. Students concentrating in American history may substitute a program in quantitative techniques or computer science

for a foreign language. Those specializing in European history must pass examinations in two foreign languages, normally French and German. The chairman will designate an examiner in each language, who will determine if the student is proficient enough to use the language as a research tool. An entering student must take a language examination as soon as it is offered in the first semester of residence and must have passed this examination by the end of the first calendar year of residence in order to register for the second year. If required, the second language examination should be attempted early in the second year and must be completed before the student registers for the third year. All language requirements must be satisfied before the preliminary oral examination can be scheduled.

Teaching Experience: Some teaching experience at the college level is a prerequisite for the Ph.D. degree. Students normally meet this requirement in their second or third years as teaching assistants.

Fields: Soon after arriving at Clark, each student, in cooperation with his/her adviser, defines four fields and prepares for them in whatever ways seem appropriate in view of her/his background and interests. Students specializing in American history normally offer the full scope of American history as two fields. Those concentrating in non-American history normally offer one American field. (The dividing line between the two American fields generally falls at 1815.) Any student may offer a nonhistorical subject as a field, usually within the social sciences, or prepare an interdisciplinary field.

Preliminary Examination: One of the four fields must be offered for oral examination at the end of the student's first year. Prior to taking the oral, the student must submit two research papers completed in the first year. The remaining three fields will be examined, again orally, at the beginning of the student's third year. The combined oral examinations constitute the "preliminary examination" required by the Graduate Board. Students who have passed their preliminary examinations may, upon request, receive the degree of master of arts.

Dissertation: Students are advised to consider and explore dissertation topics during their years of residence and to choose a possible dissertation adviser as soon as possible. The process of writing a dissertation is outlined in a brochure, "Dissertation S.O.P.," which may be obtained from the department secretary.

Deadline for Completion: All work required for the doctor's degree must be completed within a seven-year period after matriculation. In unusual circumstances only, such as involuntary military service or extended illness, the department may grant a specified extension of time.

COURSES

NOTE: Undergraduate courses are of two types: (1) courses designed for freshmen and sophomores and numbered 100–199, and (2) advanced courses numbered 200–299. The latter carry no prerequisite (unless specifically noted) and are open to freshmen and sophomores as well as upper-class students without permission of the instructor. In case of doubt, these students should consult their instructor. The term *proseminar* indicates courses of limited enrollment that combine reading, discussion, and written reports. The term *seminar* indicates a research course.

110 INTRODUCTION TO HISTORY AND AMERICAN STUDIES

This is an introduction to basic problems of interdisciplinary study and historical method as revealed in American issues and writings. This nature of literary, historical, and sociological explanation of individual and group behavior will be examined in the context of the disciplines of history and literature. Autobiography, biography, family history, narrative, fiction, and historiographical writings will be read and discussed. Also listed for credit as English 110.
Mr. Ford, Mr. Formisano

116 RACE AND ETHNICITY IN AMERICAN HISTORY

This course explores the changing racio-ethnic cultural configuration and social stratification through U.S. history. Beliefs and ideas reflecting racial and ethnic patterns will be examined to comprehend the intellectual tradition that imparted meaning to this changing social reality.
Mr. Billias

120 AMERICA AND THE WORLD

This course assumes: 1) that the United States will be a world power in the year 2000 and 2) that we should, therefore, understand America's development within the context of world history. Hence, in chronological terms, the course stresses the period since the turn of the twentieth century, when America first emerged as a world power. Among the course's themes: the expansion of Europe into an Atlantic civilization, the Atlantic revolution, America's industrial development and the rise of an American continental empire, America and the two world wars, America and the rise of the Third World, the rise of the multinational corporations, the Cold War, and imperial America as a global power in the 1960s and 1970s.
Mr. Billias, Mr. Little

200 AMERICA'S FORMATIVE YEARS

The basic institutions of American civilization and the prevailing attitudes of the present were shaped in large measure during the colonial era. This course will deal with the foundations of such institutions as the family, church, and local community in America as well as the development of representative political institutions. There also will be an examination of American attitudes toward race, religion, class distinctions, cultural ethnocentrism, and imperial relations with the mother country during the same period. The aim of the course will be to analyze the reasons for two major tendencies that seemed to develop in the American colonies: the erosion of traditional European attitudes toward authority and the emergence of a psychology of accommodation resulting from the pressures arising from the increasingly pluralistic character of the population.
Mr. Billias

201 ERA OF THE AMERICAN REVOLUTION

This course is an analysis of American society in the pre-revolutionary period with particular emphasis upon the ideological and political developments that led to the War of Independence.
Mr. Billias

202 FORMATION OF THE NEW NATION

This is an analysis of the American revolutionary experience, political theories in the making of the federal Constitution, problems of the new government, and developments in the American political tradition through the Jeffersonian era.
Mr. Billias

204 COLLOQUIUM: INTERPRETATIONS OF AMERICAN HISTORY TO 1815

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (See course description under History 304.)
Mr. Billias

206 NINETEENTH CENTURY U.S. POLITICAL HISTORY

This is an introduction dealing with the emergence of basic institutions, conflicts, and processes that became characteristic of modern American politics.
Mr. Formisano

208 THE U.S., 1900–1945

This is a survey of the U.S. from the progressive era through W.W.II. The course emphasizes the emergence of modern American culture, the rise of an imperial presidency, and the growth of government intervention in the economy from T.R. to F.D.R. Topics include the decline of socialism, the impact of war on American society, and the persistence of racial and ethnic conflict.
Mr. Little

209 THE U.S. SINCE 1945

This is a survey of the U.S. from Hiroshima through Watergate. The course focuses on the growth of an affluent society, the emergence of an imperial foreign policy, and the rise of the military-industrial complex. Major topics include anticommunism at home and abroad, the impact of the mass media on postwar American culture, the continuing quest for minority rights, and the endless war in Indochina. Also listed for credit as Government and International Relations 209.
Mr. Formisano

210 COLLOQUIUM: INTERPRETATIONS OF AMERICAN HISTORY SINCE 1815.

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (Refer to course description under History 310.)
Mr. Formisano

212 URBAN HISTORY

214 U.S. SOCIAL HISTORY, 1600–1860

215 U.S. SOCIAL HISTORY, 1860–PRESENT

219 HISTORY OF AMERICAN WOMEN

This is a comprehensive social history of American women from colonial

times to the present. The roles and status of women in economy, family, and political life as well as psycho/cultural definitions of women are examined.
Staff

221 AFRICAN/AMERICAN HISTORY

Staff

225 PROSEMINAR: VICTORIAN BOSTON

Intellectual currents, cultural movies, the arts, and institution building in nineteenth-century Boston are examined as a case study in the "culture" (high, middle, and low) of a Victorian city.
Mr. Koelsch

226 BUSING IN BOSTON, 1974–76: A HISTORICAL INQUIRY

This is a double-credit seminar, interdisciplinary, interinstitutional. It explores the history of: (1) the legal framework, (2) ethnic groups, (3) Blacks, (4) politics since 1960, (5) desegregation in other cities, and (6) residential segregation. Prerequisite: permission of instructor.
Mr. Formisano

228 RIGHT-WING MOVEMENTS, 1790–1970

This course examines Wallace, McCarthyism, American fascism, social justice, Red Scare, A.P.A., know nothing, antimasons, anti-illuminati, and other movements. Prerequisite: permission of instructor.
Mr. Formisano

230 SEMINAR: RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN REPUBLIC

This is an undergraduate-graduate course; undergraduates may enter with the permission of instructor. (See course description under History 330.)
Mr. Billias

231 UNDERGRADUATE RESEARCHERS' SEMINAR: AMERICAN POLITICAL HISTORY

This is a seminar in U.S. political history: methods and topics. Concentration is on topics selected by instructor and students, with special attention to interdisciplinary methods and most recent works in political history.
Mr. Formisano

232 RESEARCHERS' SEMINAR: NINETEENTH-CENTURY PARTIES AND SOCIAL MOVEMENTS

This is an undergraduate-graduate seminar; students may enter without the permission of instructor. (See course description under History 332.)
Mr. Formisano

234 AMERICAN CONSTITUTIONAL HISTORY

The course examines the origins and development of the American constitutional system with special reference to the role of the Supreme Court.
Mr. Campbell

235 AMERICAN CONSTITUTIONAL LAW AND CIVIL LIBERTIES

Refer to course description under Government 254.
Mr. Cohen

237 U.S. FOREIGN RELATIONS TO 1900

This course studies the creation of an American continental empire from the Revolution to the Spanish-American War. The course emphasizes the role of the main policy makers (Franklin through McKinley) in shaping American territorial and commercial expansion. Major themes include diplomacy and the making of the U.S. Constitution, the influence of sectional conflict on antebellum foreign policy, and the economic aspects of American expansion after the Civil War.
Mr. Little

238 U.S. FOREIGN RELATIONS, 1750-1914

Students will examine the emergence of the U.S. as a major world power in the twentieth century. The course focuses on the domestic sources of foreign policy and the assumptions of the major policy makers (Wilson through Kissinger). Important themes include the American response to a revolutionary world since 1910, the increasingly dominant role of the president in the making of U.S. foreign policy, and the changing position of the U.S. in the international economy.
Mr. Little

240 AMERICAN CULTURE AND SOCIETY 1820-1860

Refer to course description under English 240.
Mr. Conron

241 AMERICAN THOUGHT AND CULTURE SINCE 1860

Refer to course description under English 241.
Mr. Conron, Staff

243 AMERICAN ANTIQUARIAN SOCIETY SEMINAR IN AMERICAN STUDIES

This seminar, given at the A.A.S. (about two miles from Clark) affords students an opportunity to do original research in the society's unique holdings. Students should apply in the spring through Mr. Conron (English Department) or Mr. Formisano. This year's seminar, taught by Professors Kenneth J. Moynihan and Charles W. Estus of Assumption College, will center around the theme of "Community Life in Pre-Industrial Worcester."
A.A.S. Staff

246 SEMINAR: HISTORY OF AMERICAN HIGHER EDUCATION

The course considers the role of higher education in American life, with emphasis on the rise, character, and impact of the American university. There will be reading and discussion of selected secondary works, followed by intensive research in primary materials on a topic of the student's choice. Also listed for credit as Education 241.
Mr. Koelsch

285 PROSEMINAR: THE MULTINATIONAL CORPORATION

This course considers the growth and development of the multinational corporation from the late nineteenth century through the 1970s. The course examines why multinationals expand abroad, how they affect the host country, and in what manner they influence U.S. foreign policy. Emphasis on case studies from the oil, mineral, and utilities industries. Prerequisite: permission of instructor.
Mr. Little

291 SEMINAR IN ADVANCED TOPICS IN INTERNATIONAL RELATIONS

The substantive content of this course varies with the interests of the instructor. Possible topics include issues in international development, multinational corporations, the New International Economic Order, or issues in U.S. foreign policy. The course is designed principally for advanced students concentrating in international relations. Other students may be admitted by permission of the instructor. Also listed for credit as Government 289.
Mr. Trachte

EUROPEAN HISTORY

121 INTRODUCTION TO GREEK CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics 121.
Mr. Burke

122 INTRODUCTION TO ROMAN CULTURE, ART, AND ARCHAEOLOGY

Refer to course description under Classics 122.
Mr. Burke

150 NARRATIVE IN ANCIENT HISTORICAL WRITING

Refer to course description under Classics 150.
Mr. Burke

170 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE "FALL" OF ROME THROUGH THE RENAISSANCE AND REFORMATION

The principal goal of the course is to familiarize students, from all departments and disciplines of study, with the basic outlines of the developments of Western society and, therefore, the character of our collective identity. For the would-be history major, a secondary goal is the presentation of the varieties of historical "angles"—cultural, political and military, economic and social, etc.—and the integration of these analytical approaches into a coherent, popular narrative. The medieval period is emphasized because our modern history is rooted in it. Students are advised to take both History 170 and 171 since they are parts of a whole, but either course may be taken without the other.
Mr. Lucas

171 OUR EUROPEAN ROOTS: WESTERN CIVILIZATION FROM THE SEVENTEENTH CENTURY TO THE PRESENT

The goal of the course is the same as History 171. The course will begin with the Scientific Revolution of the seventeenth century and the Enlightenment of the eighteenth and conclude with an examination of our contemporary spiritual, material, and institutional existence in the light of our past development. Students are advised to take both History 170 and 171 since they are parts of a whole, but either course may be taken without the other.
Mr. Lucas

250 THE FORMATION OF THE MODERN STATE: GROUP CONSCIOUSNESS, INDIVIDUALISM, AND SOCIAL ORGANIZATION IN "OLD EUROPE," 1550–1789

This is an examination of pre-French Revolutionary Europe as a corporative and customary political culture; a study of how that culture was altered by absolutism, militarism, mercantilism, early capitalism, modern science, and the requirements of the international system of European states; an appreciation of the social and ideological legacies of the ancient regime.
Mr. Lucas

251 THE COMPARATIVE STUDY OF REVOLUTIONS: THE FRENCH REVOLUTION OF 1789 AND THE BEGINNINGS OF MODERN REVOLUTIONS

This is an analysis of old and new ideas of revolution including ritual, resistance, reactionary restoration vs. innovation; the "democratic" revolution; the psychology, sociology, and social psychology of revolutionary behavior; and the relevance of the French Revolution to twentieth-century issues. Also listed for credit as Government and International Relations 251.
Mr. Lucas

252 NINETEENTH-CENTURY EUROPE

This is a lecture and discussion course centering around the problems and dilemmas of various European political societies as they responded to the tug of modernity during the century of European preeminence throughout the world.
Mr. Borg

253 TWENTIETH-CENTURY EUROPE

This is a lecture and discussion course concentrating on the characteristic problems of Europe in a half century of war, economic convulsion, and political instability.
Mr. Borg

254 PROSEMINAR: WORLD WAR I AND EUROPE

Mr. Borg

255 PROSEMINAR: TOTALITARIANISM

This is a study of the nature of totalitarianism and of the origins, ideology, and operation of the German Nazi and Russian Soviet regimes.
Mr. Borg

257 PROSEMINAR: HITLER IN HIS HISTORICAL SETTING

How to judge Hitler in the context of the twentieth century?
Mr. Von Laue

258 INTRODUCTION TO WASP STUDIES: ENGLAND'S "OLD REGIME"

The course examines the formation of the peculiarities of the English "character," state, society, religions, and the world's first modern industrial economy, 1500–1850. To help students grasp these peculiarities,

a special emphasis is placed on comparisons of England's experience with continental Europe's and on the use of historical psychology.
Mr. Lucas

259 MODERN GERMANY

The course offers an examination of the convulsive course of German history over the past century.
Mr. Borg

260 MODERN SPAIN AND THE CIVIL WAR

This is a study of the history of twentieth-century Spain with emphasis on the origins and the implications of the Spanish Civil War. The course examines the political and economic modernization of Spain from 1898 through the Franco regime. Topics include the development of a republican tradition, the rise of the revolutionary left, and the role of the army in Spanish politics.
Mr. Little

263 IMPERIAL RUSSIA, 1825–1900

This is an outline of Russian development in the nineteenth century. The emphasis is on political history with occasional exploration of literary and economic history as well.
Mr. Von Laue

264 REVOLUTIONARY RUSSIA, 1900–1924

The central themes of this course are (1) the collapse of the tsarist regime and the rise of Soviet power and (2) the transformation of a social revolution into an unprecedented experiment of mobilizing a backward empire for global power. For the human dimension of this historic drama, students read Pasternak and Sholokhov and write a short paper on each.
Mr. Von Laue

265 THE SOVIET REGIME FROM STALIN TO THE PRESENT

This course presents the rise of Soviet Russia as a superpower under Stalin and his successors, emphasizing the interaction between domestic mobilization and the role of the Soviet regime in the world. Reading includes contemporary sources from the Soviet Union and parts of Solzhenitsyn's *Gulag Archipelago.* Three short papers.
Mr. Von Laue

268 WOMEN IN EUROPEAN HISTORY

Women's family and work roles will be examined in the context of European social history from the seventeenth century on. This course will attempt to assess the degree to which female roles are determined by specific economic and political systems and will focus particularly on the impact of industrialization.
Ms. McBride

269 PROSEMINAR: SOCIAL AND CULTURAL HISTORY OF THE RENAISSANCE

This is an introductory study of social structures and forms of thought and expression in Continental Europe from 1350 to 1550, emphasizing the tension between old traditions and new ideas and the relation between

intellectual and social change during the transition from medieval to modern times. Selected topics include household and family, the impact of printing, humanism and the revival of antiquity, religious movements and the occult, bourgeois and courlty art, Platonic and utopian idealism.
Mr. Bumgardner

271 IN SEARCH OF HUMANITY: EIGHTEENTH-CENTURY EUROPEAN INTELLECTUAL HISTORY

Students will study the "Enlightenment" and its heirs and critics: the scientific revolution, philosophical reformism, and early conservative romanticism. The emphasis is upon rival perceptions of man's psychological and social nature, history, and aesthetic and religious sensibilities as seen through great secondary treatments of the Enlightenment (which also introduce the student to various ways of doing intellectual history) and original sources: Hume, Beccaria, Rousseau, Condorcet, Kant, Burke, Savigny.
Mr. Lucas

272 IN SEARCH OF HUMANITY: NINETEENTH-CENTURY EUROPEAN INTELLECTUAL HISTORY

This is a study of the elaboration of the "Enlightenment" by its heirs and critics. The emphasis is the same as in 264, but the focus shifts to an analysis of political and economic liberalism, Social Darwinism, racism, and "utopian" socialism in England and France followed by an analysis of nationalism, Marxism, positivism, old and new conservatisms, and the reassessment of the values and progress of European civilization among principally Italian and German thinkers.
Mr. Lucas

JEWISH HISTORY

160 JEWS AND CHRISTIANS IN THE ANCIENT WORLD

Refer to course description under Classics 160.
Mr. Burke

173 INTRODUCTION TO ANCIENT JEWISH CULTURE AND HISTORY

This one-semester survey course will explore the formation of Biblical Judaism. Emphasizing the texts of the ancient world, the cosmic myths of Genesis and the Flood will be discussed. The formation of the first Jewish Commonwealth. The Prophetic and Priestly traditions. The rise of syncretism. The canonization of Holy Writ, as well as the introduction of hermeneutical techniques of its interpretation will be included. The exile and the creation of "portable Judaism" will be studied on the background of the Rabbinic mind and the confrontation with Hellenism.
Mr. Waldoks

223 THE AMERICAN JEWISH EXPERIENCE: A HISTORY OF JEWS IN THE UNITED STATES

A selected survey of the role of Jews in the United States. The creation of Jewish institutional life. The relation of Jews to their neighbors. The waves of immigration. Melting pot vs. ethnicity, assimilation vs. acculturation.

The rise of denominations. The emergence of American Jewry in world affairs. American Jewry and the State of Israel. The future of American Judaism.
Mr. Waldoks

276 MODERN JEWISH INTELLECTUAL HISTORY

The course will discuss the emergence of the Jew in a modern society at the time of the French Revolution. The political and ideological struggle over emancipation and adjustment will be traced through the growth of Jewish denominationalism in Western Europe. The competing ideologies of Jewish nationalism (particularly those of a non-Zionist character will be examined through both primary and secondary courses). The course will reach the creation of the Weimar Republic and examine the background of Western Jewry before the rise of Nazism.
Mr. Waldoks

277 HISTORY OF ZIONISM AND THE RISE OF ISRAEL

This course considers the major highlights and personalities of the Zionist movement from its beginnings to the rise of Israel. Attention will be paid to the roots of the movement in Jewish culture and nineteenth-century experience. The Zionist movement will be examined in all of its forms, as both a continuation of and revolution against traditional Judaism. Particular attention will be paid to the Arab-Israeli conflict and the responses of both the Israeli and world community.
Mr. Waldoks

278 HOLOCAUST: THE DESTRUCTION OF EUROPEAN JEWRY, 1933–1945

This survey will discuss the rise of political anti-semitism; the place of the Jew in Eastern and Western European Society; the rise of German volkist ideology and its place in the creation of Nazism. Close attention will be paid to Jewish and non-Jewish reaction and resistance to Nazism and its policies of mass murder. The historical, philosophical and theological implications of the Holocaust and its aftermath will be reviewed.
Mr. Waldoks

LATIN AMERICAN HISTORY

177 LATIN AMERICAN HISTORY SINCE 1825

This is a survey of Latin American nations from independence to the present with emphasis on the twentieth century. Major themes include the persistence of neocolonial social and economic structures, the emergence of nationalist and revolutionary movements after 1900, and U.S.-Latin American relations.
Mr. Little

279 PROSEMINAR: LATIN AMERICA—REVOLUTION, REFORM, AND REACTION

The course will examine the political and economic development of three Latin American nations—Argentina, Brazil, and Mexico—from independence through the twentieth century. Major themes include the persistence of neocolonial socioeconomic institutions and the emergence of revolutionary nationalist traditions since 1825.
Mr. Little

AFRICAN HISTORY

179 THE HISTORY OF TRADITIONAL AFRICA

This is an introduction to the history of Africa south of the Sahara. The course will begin with the early civilizations of Kush, Axum, Ghana, Maili, Songhai, Benin, the Sanj, Congo, and Zimbabwe and continue through to the arrival of Europe. Attention will be given to eastern, western, and southern Africa. The approach will be largely historical and anthropological.
Mr. Ford

180 HISTORY OF MODERN AFRICA

The course will introduce students to the major themes of modern African history. It will begin with an orientation to precolonial Africa and then consider four main periods: (1) the imperial years, (2) the struggle for independence, (3) the 1960s as a decade of independence, and (4) the 1970s as a search for identity and development. The course will focus primarily on the years since 1945.
Mr. Ford

280 AFRICAN VERSUS EUROPEAN CULTURE: CASE STUDIES FROM WEST AFRICA

The interaction of European and African cultures will be studied, from the beginning of European exploration to the present, with special emphasis on the area of modern Ghana. Topics vary from politics to economics, literature, anthropology and ethnology, religion and slavery—covering as many facets of the cultural interaction as possible. A special theme will be announced for this course whenever it is offered. Papers vary according to the theme.
Mr. Von Laue

286 CITIES IN AFRICA

The course will consider historical dimensions of African urbanization with special attention to the spatial and functional role of cities. Agricultural, administrative, political, market, and industrial uses will be examined. The impact of urbanization on African cultural values will be examined.
Mr. Ford

ASIAN HISTORY

181 CHINA, 1840–1949: A GREAT TRADITION IN TRANSFORMATION

China's continuing struggle to maintain her cultural identity and territorial integrity while confronting the modern West is the theme of this course, which examines major historical developments in China from the Opium War in 1840 to the establishment of the People's Republic in 1949.
Ms. Gottschang

281 THE PEOPLE'S REPUBLIC OF CHINA: REVOLUTION AND DEVELOPMENT

The course has two important goals: 1) to provide the student with an informed basis for understanding the origins and development of the

Communist Revolution and for assessing current trends and future possibilities as China concentrates her energies and resources on modernization; and 2) to bring to life the everyday workings of Chinese society through first-hand accounts and selections from China's own contemporary literature.
Ms. Gottschang

INTERNATIONAL DEVELOPMENT

125 DEVELOPMENT PROBLEMS

This is an introduction to the study of development. The course will consider the historical evolution of the concepts of economic growth and development; the nature of development; five alternative approaches to development ranging from conventional theories of capital intensive investment to more radical theories of labor intensive investments; and for a conclusion, an assessment of development policies of governmental and nongovernmental organizations. Historical, geographic, and political considerations will receive special attention. Also listed for credit as International Development 125 and Geography 125.
Mr. Ford, Ms. Seidman

283 CLIMATE AND HISTORY: ANALYSIS OF THE INFLUENCE OF CLIMATE ON HISTORICAL CHANGE

This is an inquiry into the influence climatic patterns have exerted on historical events. The course will look primarily at Africa and the U.S. In Africa, attention focuses on the Sahel over the last eight or ten thousand years, but with special focus on the last two thousand. In southern Africa, climate and lifestyle of five different population groups are compared with a similar environmental setting in the great plains of North America. Special attention is given to the Turner hypothesis for institutional development on the frontier.
Mr. Ford

284 CLIMATIC HISTORY AND DEVELOPMENT

The course consists of a series of case studies for development projects in diversified climate settings. Students will select two or three climatic world regions in Asia, Africa, or Latin America and consider different development strategies in agriculture, health, light industry, or resettlement in each of these regions. The goal of the course is to determine appropriate development strategies for varied cultural and physical settings.
Mr. Ford

GLOBAL HISTORY

190 SURVEY OF TWENTIETH-CENTURY GLOBAL HISTORY

Starting with a brief assessment of the world in 1900, the course offers historical background to the contemporary global order. It is designed to help students view their lives within a worldwide perspective in terms of politics, economics, and culture as well as the human costs and individual resilience shown during the great crises of this century. Students write essays every other week, giving their reactions to the assigned reading and class discussion.
Mr. Von Laue, Mr. Borg

256 THE EXPANSION OF EUROPE, 1415 TO THE PRESENT

The course deals with the universalization of European culture at three key stages: (1) the fifteenth and sixteenth centuries, (2) the late nineteenth century to 1914, and (3) from the Second World War to the present. A central theme is the nature of comparison between Europeans and non-Europeans. Recommended also to students of non-European culture and development.
Mr. Von Laue

288 MARXISM AND REVOLUTION: RUSSIA AND CHINA

This course traces the evolution of Marxism in Russia and China with special attention to the interaction between Marxist thought and indigenous conditions in these countries. Readings are mostly from Lenin and Mao. A prior acquaintance with Marxism and the history of Russia and China is desirable but not required. Three short papers.
Mr. Von Laue

289 PROSEMINAR: THE CONTEMPORARY AGE IN GLOBAL PERSPECTIVE

This course attempts to outline the major conditions affecting the individual at the end of the twentieth century. It examines salient features of the external framework of human existence in terms of politics, economics, the relations between rich and poor in the world, technology, ecology, major natural resources, and the role of the individual in national and global society, with a view to helping students plan their lives and expectations more realistically. Written work consists of a diary.
Mr. Von Laue

DEPARTMENTAL HONORS

292 HONORS PROSEMINAR

This course attempts to teach students how to write analytical and synthetic research papers and to write them well. The course also introduces students to problems of studying history by learning about the aspirations, advantages, and disadvantages of "historicism." Open to sophomores and juniors, to majors and nonmajors and to honors and nonhonors students.
Mr. Borg, Mr. Lucas

293 HONORS THESIS RESEARCH

Honors students receive up to two credits for thesis research. Honors students preparing for the comprehensive exam receive credit for their reading under History 297. Offered for variable credit.
Staff

SPECIAL PROJECTS

295 WRITING FOR UPPER DIVISION STUDENTS IN HISTORY AND THE SOCIAL SCIENCES

The course is designed for students planning careers in which good writing counts. It is not a remedial course; it attempts to promote awareness of good prose. Weekly essays, vocabulary exercises, and word

study, as well as constant practice of analyzing samples of good and bad style. Required text: Sheridan Baker, *The Practical Stylist.*
Mr. Von Laue

296 PRACTICUM IN THE TEACHING OF HISTORY

Variable credit.
Mr. Ford

297 RESEARCH PROJECTS

Undergraduates, normally juniors and seniors, may construct an independent research course with an instructor of their choosing. Prerequisite: permission of instructor. Offered for variable credit.
Staff

298 DIRECTED READINGS

Undergraduates, normally juniors and seniors, may design a directed readings course to consist of a sequence of structured readings on a given topic to be approved and directly supervised by an instructor. Prerequisite: permission of instructor. Offered for variable credit.
Staff

299.9 INTERNSHIP

The student who undertakes an interdisciplinary internship for more than two credits may receive up to two credits in history and the remainder in another department. Prerequisite: permission of instructor and of chairman. Offered for variable credit.
Staff

GRADUATE COURSES

301 STUDIES IN EIGHTEENTH-CENTURY AMERICAN HISTORY

Independent studies. Offered for variable credit.
Mr. Billias

304 COLLOQUIUM: THE LITERATURE OF AMERICAN HISTORY TO 1815

This course take a historiographical approach to the literature in American history from the beginning of the colonial period until the end of America's second War of Independence.
Mr. Billias

310 COLLOQUIUM: INTERPRETATIONS OF AMERICAN HISTORY SINCE 1815

Students examine major topics and themes, with emphasis on historiographical essays.
Mr. Formisano

312 STUDIES IN AMERICAN SOCIAL HISTORY

Independent studies. Offered for variable credit.
Staff

315 STUDIES IN ECONOMIC HISTORY

Independent studies. Offered for variable credit.
Staff

330 RESEARCHERS' SEMINAR: RISE OF POLITICAL PARTIES IN THE EARLY AMERICAN REPUBLIC

This seminar deals with the origins of American political parties, the debate regarding the early party system, and a study of the process of nation building.
Mr. Billias

331 RESEARCHERS' SEMINAR: AMERICAN POLITICAL HISTORY

This is a seminar in U.S. political history: methods and topics. Concentration is on topics selected by instructor and students, with special attention to interdisciplinary methods and most recent works in political history.
Mr. Formisano

332 RESEARCHERS' SEMINAR: NINETEENTH-CENTURY PARTIES AND SOCIAL MOVEMENTS

This seminar concentrates on the most important populist movements in the U.S. in the nineteenth century—especially antimasonry, know-nothingism (nativism and antiCatholicism), antislavery-abolition, and agrarian populism—and connects them to major political parties especially in periods of crisis and realignment. Reading in secondary sources is followed by research in primary sources and the writing of original research papers.
Mr. Formisano

335 STUDIES IN NINETEENTH-CENTURY U.S. HISTORY

Independent studies. Offered for variable credit.
Staff

336 STUDIES IN AMERICAN CONSTITUTIONAL HISTORY

Independent studies. Offered for variable credit.
Mr. Campbell

337 STUDIES IN DIPLOMATIC HISTORY

Independent studies. Offered for variable credit.
Mr. Little

341 STUDIES IN AMERICAN THOUGHT AND CULTURE

Independent studies. Offered for variable credit.
Mr. Koelsch, Staff

342 STUDIES IN AMERICAN INTELLECTUAL HISTORY

Independent studies. Offered for variable credit. Also listed for credit as Philosophy 335.
Staff

344 STUDIES IN RECENT AMERICAN HISTORY

Independent studies. Offered for variable credit.
Mr. Little, Staff

349 STUDIES IN CANADIAN HISTORY

Independent studies. Offered for variable credit.
Staff

350 STUDIES IN EARLY MODERN EUROPEAN HISTORY
Independent studies. Offered for variable credit.
Mr. Lucas

351 STUDIES IN EUROPEAN INTELLECTUAL HISTORY
Independent studies. Offered for variable credit.
Mr. Lucas

352 STUDIES IN MODERN EUROPEAN HISTORY
Independent studies. Offered for variable credit.
Mr. Borg, Mr. Von Laue

359 STUDIES IN RUSSIAN HISTORY
Independent studies. Offered for variable credit.
Mr. Von Laue

380 STUDIES IN AFRICAN HISTORY
Independent studies. Offered for variable credit.
Mr. Ford, Mr. Von Laue

383 STUDIES IN CHINESE HISTORY
Independent studies. Offered for variable credit.
Staff

395 PRACTICUM IN THE TEACHING OF HISTORY
Offered for variable credit.
Mr. Ford, Staff

399 GRADUATE READINGS
Offered for variable credit.
Staff

400 THESIS REASEARCH
Offered for variable credit.
Staff

Humanistic Studies

PARTICIPATING FACULTY

Martyn Bowden, Ph.D., Professor of Geography, Program Director
Charles Blinderman, Ph.D., Professor of English
Bernard Kaplan, Ph.D., Professor of Psychology
Walter Schatzberg, Ph.D., Professor of German
Stanley Sultan, Ph.D., Professor of English
Albert A. Anderson, Ph.D., Associate Professor of Philosophy
Gerald Castonguay, Ph.D., Associate Professor of Music
John Conron, Ph.D., Associate Professor of English
Marvin D'Lugo, Ph.D., Associate Professor of Spanish
Ronald Formisano, Ph.D., Associate Professor of History
Wesley Fuller, M.Mu., Associate Professor of Philosophy
Douglas L. Johnson, Ph.D., Associate Professor of Geography

James D. Laird, Ph.D., Associate Professor of Psychology
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French
Gary E. Overvold, Ph.D., Associate Professor of Philosophy
Frank W. Puffer, Ph.D., Associate Professor of Economics
Michael K. Spingler, Ph.D., Associate Professor of French
Walter Wright, Ph.D., Associate Professor of Philosophy
Bonnie Lee Grad, Ph.D., Assistant Professor of Art History
Gale Nigrosh, M.A.T., M.A., Lecturer in French and Linguistics

The Program of Humanistic Studies (PHS) is an interdisciplinary program supported through a grant of the National Endowment for the Humanities. Although the program does not offer an undergraduate major, each semester it provides undergraduates a series of integrated seminar courses, or "clusters," each centered around a different theme and exploring the ways in which that theme is approached by investigators from a variety of humanities and social science fields. The objective of the cluster approach to interdisciplinary learning is to combine, for both the student and the faculty member, the strengths of a disciplinary grounding in a subject with the benefits of an interdisciplinary focus on themes and methods.

The humanistic education is concerned with the assumptions and methods the human mind has established in certain areas of knowledge, with emphasis on cultural and historical contexts that give rise to that knowledge—an appreciation for the significance of that subject in its contemporary as well as historical dimensions. In short, the learning experience is broadly defined, not as an isolated approach to a narrow kind of knowledge, but rather as modes of learning which continually stress the tradition and contemporary context of knowledge.

Each cluster in PHS consists of a group of three or four course components in different departments and/or disciplines taught concurrently on aspects of a single theme. Although individualized in terms of the particular methodologies used in each course, all courses in a cluster share a number of common features:

1. general theme;
2. a number of shared readings in all courses within a given cluster;
3. some joint sessions in which all courses in the cluster will meet to discuss the common theme or work in a common activity;
4. a common number of writing assignments, the evaluation of which will be shared in some measure by all faculty participating in the cluster.

All cluster courses are listed in the individual departments and may be used to fulfill major requirements in appropriate departmental majors.

ARTICULATION CLUSTERS—PROJECT ON WRITING

Each semester the Program of Humanistic Studies sponsors a number of courses in departments throughout the University. These courses seek to provide students with a format for developing their powers of articulation in writing by addressing them to the intellectual component of the writing activity. To achieve this, we have established a methodology that allows both instructors and students to learn how writing can be used to refine ideas and concepts, that is, as part of the intellectual inquiry of given disciplines. Each such group of courses is defined as an "articulation cluster," similar in general pattern to the theme-centered clusters described above. The courses comprising articulation clusters are all recognized offerings of normal departmental programs. Descriptive listings of each cluster will be available prior to the start of each semester. For more information regarding the particular courses included in articulation clusters for Semesters 1 and 2, students should contact their respective departments or the Program of Humanistic Studies.

THEME CENTERED CLUSTERS

AMERICAN SPACE AND ITS EUROPEAN ROOTS

This is an examination of the European images of the known world at the time of the discovery of America, and of how these early notions affected later thought about America in the areas of geography, literature, and the arts. Using literature, film, and other artistic forms, specific models are studied in a variety of contexts: the island, the city, the garden, the frontier, the general contrast between primitive and civilized spaces. This course is listed for credit as English 172, Geography 172 and Philosophy 162.
Mr. Conron, Mr. Bowden, Mr. D'Lugo

AMERICAN LANDSCAPE

A cluster course in the Program of Humanistic Studies and the American Studies Concentration. Coordinated courses in art history, cultural geography, and American literature will explore common themes in the evolution of the American landscape. These themes will include: the values, perceptions, images, material artifacts, and settlement processes that have contributed to shaping the humanized landscape. The themes will be elaborated in a context both historical and regional. Classes will meet twice weekly in separate groups for the regularly scheduled class period. The class period will be extended for joint meetings in alternate weeks for special events including lectures, field trips, and possible films. Short written papers marked by all three professors and class participation will be the basis for grades. The course is listed for credit as Art 279, Geography 279, and English 279. Each course is limited to 15 students.
Ms. Grad, Mr. Conron, Mr. Johnson

AMERICAN SPORT

A cluster course in the Program of Humanistic Studies. Parallel and overlapping courses in cultural geography, economics, and psychology using common readings, writing assignments, and group meetings in an exploration of various American games as expressions and reflections of American history, character, values, attitudes, environment, self-image, mentality, and economic ethos and institutions. Emphases will be on: (1) the relationship between the character and structure of the games and their success among different groups of Americans; (2) the timing of adoption of the games; (3) explanations for the transformation of the games from European and early forms; (4) economic forces influencing the structure of spectator and participatory sports; (5) deviation of professional and amateur variants; (6) scale and nature of sport as a business. Native-American, European, and U.S. games will provide examples. Football, rugby, soccer, baseball, basketball, hockey, lacrosse, and tennis, among others, will be studied. Classes will meet twice weekly in separate groups for the regularly scheduled class period. The class period will be extended for joint meetings in alternate weeks for special events (films, possible trips). Short written papers marked by all three professors and class

participation will be the basis for grades. This course is listed for credit as Geography 196, Economics 196, and Psychology 196. Each course is limited to 15 students.
Mr. Laird, Mr. Puffer, Mr. Bowden

AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This study is conducted primarily as a senior seminar in which comparative literature, geography, and philosophy provide integrated perspectives on the city. American and European models of classical and contemporary cities are used to analyze the historical, geographic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City. The course is listed for credit as Comparative Literature 272, Geography 272, Philosophy 272, and Spanish 272.
Mr. Anderson, Mr. Bowden, Mr. D'Lugo

ROMANTICISM IN THOUGHT, LITERATURE, AND THE ARTS

This is a study of romanticism in philosophy, literature, music, and the visual arts. Romanticism is seen as a rebellion against traditional values in art and life placing the individual at the threshold of modernity. Expressions of the themes of alienation and personal transformation are studied in novels and novellas, poetry, philosophical literary works, program music, painting, and film. The course is listed for credit as Comparative Literature 182, English 182, Music 182, and Philosophy 182.
Mr. Blinderman, Mr. Castonguay, Mr. Overvold, Mr. Schatzberg

SELF, SYMBOL, AND VALUE

Students engage in an exploration of the self and its transformations from the perspectives of philosophy, literature, and the social sciences. The course examines such issues as the attainment and dissolution of personal identity, the role of language in the formation of the self, selfhood and sexuality, the self in relation to fantasy and imagination, the self and its social context. The course is listed for credit as Comparative Literature 258, Philosophy 258, and Psychology 258.
Mr. Kaplan, Ms. Kaufmann-McCall, Mr. Wright

IN-FORM-ATION: MEANING THROUGH STRUCTURE IN MUSIC AND THEATER

This course explores the ways in which form creates meaning. A set of common concepts is used to look at qualities of structure in a variety of creative experiences. The goal is to develop in the student the ability to recognize the significance of forms, whether they occur in art or in everyday life. The course assumes that some of the most meaningful insights into a particular subject may be gained by bringing to bear upon it the critical methods of other areas of knowledge. This course is listed for credit as Music 170 and Comparative Literature 170.
Mr. Fuller, Mr. Spingler, Staff

International Development and Social Change

PROGRAM FACULTY

Leonard Berry, Ph.D., Professor of Geography, Program Codirector; Director, Graduate School of Geography
Richard B. Ford, Ph.D., Program Codirector, Associate Professor of History
Cynthia Enloe, Ph.D., Professor of Government and International Relations
Robert W. Kates, Ph.D., Professor of Geography and Research Professor
Harry E. Schwarz, B.C.E., Professor of Environmental Affairs
Ann Seidman, Ph.D., Professor of International Development
Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of History
Robert C. Hsu, Ph.D., Associate Professor of Economics
Douglas L. Johnson, Ph.D., Associate Professor of Geography
Laurence A. Lewis, Ph.D., Associate Professor of Geography
Frank W. Puffer, Ph.D., Associate Professor of Economics
Harry J. Steward, Ph.D., Associate Professor of Geography
Kirsten Johnson, Ph.D., Associate Professor of Geography
Philip O'Keefe, Ph.D., Research Associate Professor
Charles Hays, M.D., M.P.H., Associate Professor of International Development (Affiliate)
John Townshend, Ph.D., Assistant Professor in International Development (Affiliate)
Sixten Haraldson, Ph.D., Associate Professor of International Development (Affiliate)

PROGRAM

International Development and Social Change (ID) is an interdisciplinary program offering courses at the B.A. and M.A. levels and combining research and training activities with course work.

The teaching program is designed to introduce students to the complex issues involved in international development, acquaint them with a range of research activities, and prepare them for careers and participation in international fields. It will attempt to orient majors to the changing world in which we live and to the increasing role developing societies play in the interdependence of the world's social, economic, and political systems. The program also hopes to attract a wide range of non-majors in one or more of the courses, seminars, or action research activities. Students also are encouraged to work out a double major with one of the cooperating departments.

A new program in development, launched at a time of disillusionment and widespread doubt about the progress in international development, requires special explanation. The program does not seek to train agricultural specialists, highway design engineers, or sanitation system contractors. Nor does the program expect a majority of its graduates to work for the established international agencies such as US-AID, the World Bank, or the United Nations. Rather, it assumes that graduates will acquire basic skills of economic and social analysis as well as generalized orientation toward development and social change. These skills and attitudes will be well suited for further graduate study and specialization or for any number of careers in either the private or public sector that deal with developing areas of the world.

To attain these skills, students in the program will work in a combined graduate-undergraduate setting which blends the breadth of liberal arts with the specialization of professional training. Thus the curriculum combines existing departmental courses, new cross-disciplinary courses, a basic research project, and applied research activity.

The research program offers faculty, graduate students, and undergraduates opportunities to work individually and cooperatively on topics of concern related to international development and social change. Current research projects include problems of the world's least developed nations; the continuing problems of drought and development in eastern, western, and southern Africa; the social and economic impact of desertification worldwide; and environmental and long-range developmental problems in eastern Africa. In all this, we are concerned with the relationship between technological intervention and social change in the developing world. Associated with these collaborative research efforts are seminars, symposia, field internships, and summer activities.

The International Development and Social Change Program is flexible, permitting students to participate in designing their own interdisciplinary curriculum for the study of development problems. It aims to meet the needs of three different groups of students: *First,* it provides one of the few programs in the United States which permits undergraduate students to take a liberal arts B.A. degree focused on development. Students may take international development as a double major in conjunction with a related discipline like geography, economics, government, sociology, or psychology. *Second,* it provides an opportunity for undergraduates who qualify to go on in the program to complete a five year B.A.-M.A. degree with a view to a career in the development field. *Third,* it provides a self-contained program for students coming from other universities who wish to obtain the necessary background and complete an M.A. in order to pursue a career in the development field.

To meet the needs of these three groups, the ID program is structured flexibly. Students are expected to consult the ID staff in planning their individual programs within the overall ID framework.

Students are expected to:

1) master basic skills including competence in a foreign language, quantitative skills, and techniques of economic and social analysis
2) attain an understanding of the development process in its political, economic, historical, and environmental aspects
3) develop an investigation/research approach to an actual problem and attempt to apply the growing body of theoretical knowledge in an internship experience
4) wrestle with the problem of hammering out a philosophy of development
5) pursue a career track—for example, public administration, development planning, development education—chosen in consultation with a faculty adviser

Career Tracks

Majors in international development and social change will take at least four courses in a particular field of specialization. Students may follow the pattern set out in one of several established tracks, for example, development planning, resource management, development administration, or health administration. Or a student may design a course sequence, subject to approval by an appropriate faculty member, that creates a new focus. In every case, the area of concentration should be looked upon as an opportunity for students to link their interest in development with a focus in a specialized field.

Course Requirements

1. *Basic orientation:* Majors will take Introduction to Development, Development Economics, and three additional core courses in politics, resource management, and socio-cultural issues. (Students transferring from other majors or universities may substitute equivalent courses.) Unless they otherwise satisfy the prerequisites for Development Economics (with permission of the instructor), they also must take Issues and Perspectives and Principles of Economics.
2. *Track Courses:* Majors will take at least four courses in the track or area of concentration they select in consultation with an ID faculty adviser. For example, for resource management, one may choose: *Environmental Affairs* (EA) 201, EA 202, Geog. 157, Geog. 257, Geog. 268, Geog. 307; for *Development Planning,* one may choose from Geog. 130, Geog. 230, Geog. 261, Geog. 270, Gov. 275, Gov. 291; for *Health Administration,* one may choose ID 179, Bio. 238, Geog. 241; for *Women and Development,* one may choose ID 217, Soc. 225.
3. *Skills Courses:* Majors will take Social Science Research Methods and at least two of the following: computer science, statistics, and cartography. They should decide, in consultation with the faculty adviser, which language proficiency would be most helpful for their chosen development area. They may demonstrate language proficiency through proven competence or course work equivalent.
4. *Additional Activities:* In addition to the several formal courses, the International Development and Social Change Program sponsors a number of seminars, symposia, action projects, and student exchanges. Majors are encouraged to participate in these activities.
5. *Graduate Students,* in addition to completing the basic courses outlined above (they may substitute equivalent courses, if they graduated from another university) will be expected to take at least one advanced course in theories of development and three others (including advanced methodology) relating to their career track. They will also participate in an appropriate applied project and write a thesis.

COURSES

015 INTRODUCTION TO ECONOMIC GEOGRAPHY

This is an introduction to economic geography, including an outline and critique of theories of location and economic development. Also listed for credit as Geography 015.
Mr. Peet

120 INTRODUCTION TO SOCIAL ANTHROPOLOGY

Analysis of non-western societies with a focus on social structures. The emphasis will be on the development of a comparative perspective and a non-ethnocentric perspective on our own culture. Theoretical and topical interests vary with instructor. Also listed for credit as Sociology 120.
Ms. Sachs, Mr. Gerber

125 DEVELOPMENT PROBLEMS

Explores the several dimensions of development and the reasons why the

gap between developed and underdeveloped countries is widening. Among the disciplines drawn upon will be: geography, government, economics, and education. Problems analyzed will include urban growth, land reform, unemployment, and government planning. Tanzania, China, Brazil, and other countries will be used as cases. Also listed for credit as Geography 125 and History 125.
Ms. Seidman, Mr. Ford

129 LATIN AMERICA: ISSUES AND PROBLEMS

The course will review some of the main issues confronting modern Latin America, including rural poverty, the extinction of Indian populations, uncontrolled urban growth, dependent industrial development, and issues in agricultural production. These issues will be analyzed in the light of differing theoretical explanations regarding the nature and dynamics of underdevelopment, and in relation to commonly proposed solutions, such as self-help housing, agrarian reform, and colonization. Also listed for credit as Geography 129.
Ms. Johnson

157 INTRODUCTION TO RESOURCE MANAGEMENT

The course provides an introduction to the salient concepts, issues, and debates in the field of resource management. It focuses on three central themes: 1) the evolution of environmental ethics and the practice of resource management, 2) the relationship between economic growth and environmental quality, 3) the process of decision making in resource management. In addition, a number of illustrative case studies are examined. Also listed for credit as Geography 157.
Ms. Johnson

176 COMPARATIVE ECONOMIC SYSTEMS

Many different political and economic systems exist in the world. Most systems are continually undergoing changes that gradually, but importantly, affect their performance. This course surveys both the major theoretical models of economic systems and the actual workings of contemporary economic systems. Mixed economies, market socialist economies, and centrally planned economies are examined. Also listed for credit as Economics 176.
Mr. Hsu

177 CHINESE ECONOMIC PLANNING

This course is a comprehensive survey of the Chinese economy—its development, institutions, and policies. The major topics to be covered are: 1) Economic Heritage; 2) Maoist and post-Mao Economic Development: Ideologies and Strategies; 3) Rural and Agricultural Development; 4) Industrial Development; 5) Planning and Resource Allocation; 6) Human Resources: Population, Health Care, Education; 7) International Economic Relations. Also listed for credit as Economics 177.
Mr. Hsu

178 CULTURAL ECOLOGY IN THE HUMAN TROPICS

This course examines a range of environments and subsistence strategies characteristic of the tropics. Examples will be taken from Latin America and Africa. Attention focuses on issues of population growth, agricultural intensification, and the application of traditional strategies to contempo-

rary economic development. Also listed for credit as Geography 178.
Mr. Turner

179 HEALTH PROBLEMS AND HEALTH CARE DELIVERY IN THE DEVELOPING COUNTRIES

This course will examine the health care problems of developing societies and will place a special emphasis on the nutritional and population parameters of these problems. It will also examine the relationship of health to political and socio-economic development and will point out some of the successes and failures of health development planning in the past decade. The rural health care delivery systems of selected socialist and capitalist societies will be examined and compared.
Mr. Hays

201 APPLICATION OF SYSTEMS ANALYSIS TO ENVIRONMENTAL PROBLEMS

This course will discuss the fundamental concepts of system analyses and their application to environmental problems. Stress will be on the use, applicability, and limitations of this method in analyzing complex environmental systems and their physical, social, and economic aspects. Prerequisite: admission to Environmental Affairs Program or permission of instructor. Offered as a half course, first half of semester. Also listed for credit as Environmental Affairs 201.
Mr. Schwarz

202 THE BIOSPHERE

Building on a foundation of general knowledge of physiology, genetics, taxonomy, and ecology, the course will provide a biological context and perspective for the analyses and assessment of man-made environmental hazards. Prerequisite: introductory course in biological science or concurrent registration in such course with permission of instructor. Offered as a half course, second half of semester. Also listed for credit as Environmental Affairs 202.
Staff

203 MAN'S PERCEPTION OF HIS ENVIRONMENT

This is an introduction to the study of environmental behavior, examining man's reactions to environmental changes and natural and man-made hazards. Offered as a half course, first half of semester. Also listed for credit as Environmental Affairs 203.
Staff

204 ENVIRONMENTAL PLANS AND PROGRAMS

This is an overview of the planning process with special emphasis on plans and programs in the New England region. Current plans and programs are examined and their logic and history discussed. Offered as a half course, second half of semester. Also listed for credit as Environmental Affairs 204.
Mr. Schwarz

208 ENVIRONMENTAL COGNITION AND BEHAVIOR

The course will review the theories, methods, and research findings in the field of environmental perception. Particular attention will be given to the development of spatial cognition and to cross-cultural studies in cognition. Also listed for credit as Geography 208.
Ms. Johnson

210 ENVIRONMENTAL PROTECTION

This is a free-wheeling discussion of pollution control in the real world; its legal institutional, and political framework: federal, state, and local laws and their scientific basis; agency practice and procedure; public litigation and private "citizens suits"; selecting theories and remedies, both civil and criminal; tactics and strategies; citizen "watchdog" groups: corporate and media responsibility; economy versus ecology; old tools, new tools, potential for change. The course includes reading in multilithed materials—statutes and journal articles. Informal student advocacy panels will be utilized.
Staff

217 WOMEN IN DEVELOPMENT

The course will analyze changing labor force patterns among women in developing countries. It will also consider assumptions about the role of women, both in established theories and alternative theoretical explanations. The course will include a review of existing government policies and alternative programs affecting women, views of women in cross-national perspective, a comparative analysis of the labor supplies in different countries, and a unique perspective on development theory and practice.
Ms. Seidman

218 HISTORY OF CARTOGRAPHY

A basic survey of the history of mapping up until about 1900. Topics will include the methodological basis of investigations into the subject; maps of primitive peoples; the classical, medieval and Renaissance periods; the rise of national surveys; the relationship of mapping with exploration; and the cartography of North America. Also listed for credit as Geography 217.
Mr. Steward

224 MAPPING FOR INTERNATIONAL DEVELOPMENT

This course will seek to set the current state-of-the-art/future potential of mapping techniques and technology in an international development context. Lectures and project work will be augmented with field trips to the cartographic sections of relevant agencies, e.g., United Nations, World Bank, Organization of American States. Also listed for credit as Geography 224.
Mr. Steward

225 BLACK POLITICS IN THE UNITED STATES

This course will analyze the distribution of power as it affects the Black community. Among those topics to be explored will be: Black congressmen and lobbies, Black politics in cities, the impact of Blacks on the bureaucracy, and a comparison of Northern and Southern Black politics. Also listed for credit as Government 224.
Ms. Enloe

228 MANAGEMENT OF ARID LAND

The drylands of the world present special development problems. Particularly prone to degradation, these regions face the difficult task of providing support for a rapidly growing population. Viewed in a historical perspective, the demography, social and livelihood systems, behavioral characteristics, and physical constraints of dryland ecosystems will be analyzed. Special attention will be paid to evaluating the management strategies currently employed in their use, identifying the obstacles

constraining their growth, and assessing their future development potential. Also listed for credit as Geography 228.
Mr. Johnson

230 CULTURAL ECOLOGY OF PASTORAL SYSTEMS

Comparative cross-cultural analysis of a number of pastoral resource-use systems. Emphasis is placed on, but not limited to, traditional pastoral adaptations to arid and semi-arid environments in the subtropics and middle latitudes. Alternative development strategies for modernization and social change within these systems will also be studied using case studies and the analysis of individual development projects. Also listed for credit as Geography 230.
Mr. Johnson

251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT

An inquiry into current issues of scholarly debate in the field of environmental management. Also listed for credit as Geography 251 and Environmental Affairs 251.
Mr. Kasperson

258 CENTRAL AMERICA: LANDSCAPE EXPERIENCE AND CHANGE

This region is examined in context with the various cultures that have made imprints on its landscapes. The shared and particular values and technologies of Amerind, European, African, and Ladino are traced from the rise of early civilization in the region to modern times. Emphasis is placed on landscape utilization and modification as expressions of each culture's experience. Also listed for credit as Geography 258.
Mr. Turner

266 ETHNOLOGY AND POLITICS OF THE CARIBBEAN

This course will focus upon various problems in the anlaysis of the Caribbean culture area. Also listed for credit as Sociology 220, Government 266.
Mr. Rasmussen, Mr. Gerber

277 REGIONAL ECONOMICS

This course examines theoretical and practical aspects of economic development, cyclical changes, and trade between regions of the United States. Location theory, growth trends, wage and income differentials, structural unemployment, and inequalities in income distribution are considered. Inter-regional input-output tables are emphasized. Prerequisite: Economics 11.
Mr. Puffer

283 PLANNING STUDIO 2: PROBLEMS

Students will give practical application of planning skills to specific problems. The class will focus on one or more problems and pursue alternative solutions through a teamwork approach.
Staff

285 GEOGRAPHY OF THE MIDDLE EAST

A systematic approach to the geography of the Islamic culture realm, the course also covers North Africa and the non-Arab states of Turkey and Iran. The modernization and transformation of traditional patterns of

livelihood and lifestyle characteristic of the Middle Eastern cultural mosaic comprise the focus of the course. Also listed as Geography 284.
Mr. Johnson

286 AGRICULTURE IN TRADITIONAL ECONOMIES

Subsistence and peasant economies world-wide are the focus of investigation. Particular emphasis is placed on theories explaining change within agricultural systems. Also listed for credit as Geography 299.
Mr. Turner

289 POLITICAL ECONOMY OF DEVELOPMENT

This course will examine the current "state of the art" and debates surrounding differing theories of underdevelopment and their implications for international and regional development. Also listed for credit as Geography 289.
Ms. Johnson

290 REMOTE SENSING OF THE ENVIRONMENT

This course will concentrate on the use of remote sensing instrumentation as a tool for the geographer. Students should develop a working understanding of the electromagnetic spectrum as a guide upon which the geographer may choose a sensor or data for geographic investigation and as a basis for communication with others in the field. Hands-on experience with conventional aerial photo interpretation and Earth Resources Observation Systems data will be emphasized. Also listed for credit as Geography 290.
Mr. Steward

293 CLIMATIC ENVIRONMENTS OF THE TROPICS AND SUBTROPICS

The process and patterns of the dynamic climatology of tropical and subtropical areas. Particular emphasis is given to the climates of Africa in terms of desertification and current development problems. Also listed for credit as Geography 293.
Ms. Nicholson

295 PLANNING FOR DEVELOPMENT

This course will examine alternative approaches to planning for development by looking at their implications for institutional changes and patterns of resource allocation through case studies of selected countries. It will focus particularly on the impact of planning on industrial agriculture, domestic and international trade, finance, and labor use.
Ms. Seidman

298 READINGS IN INTERNATIONAL DEVELOPMENT

This seminar will critically evaluate the leading materials relevant to issues of international development. It will seek to give participants a knowledge of alternative theoretical approaches and their applicability to the practical problems of development. Required for ID graduate students.
Staff

299 RESEARCH IN INTERNATIONAL DEVELOPMENT

Variable credit, differing topics, may be associated with International Development research projects. By arrangement.
Staff

302 RESEARCH THESIS
Master's degree candidates will register for two courses, called Thesis Research, while working on their master's degree research thesis. Offered for variable credit.
Staff

310 RESEARCH SEMINAR IN DEVELOPMENT GEOGRAPHY
The seminar is designed for thesis- and dissertation-level students working in the areas of resources, development, and environmental cognition, who are developing proposals or preproposal research papers. The seminar will provide a forum for discussion, criticism, and practical advice. Also listed for credit as Geography 310.
Ms. Johnson

357 REGIONAL WATER RESOURCES PLANNING
The process of regional water resources planning is reviewed in the context of broad environmental concerns and is applied to an actual problem. Students, working as a group, select a region and prepare, for that area, a preliminary planning document which could be used as a guide for future detailed planning. Also listed for credit as Environmental Affairs 357 and Geography 357.
Mr. Schwarz

International Relations

Participating Faculty
Douglas Little, Ph.D., Program Codirector, Assistant Professor of History
Kent Trachte, Ph.D., Program Codirector, Assistant Professor of Government
Daniel R. Borg, Ph.D., Associate Professor of History
Paul Lucas, Ph.D., Associate Professor of History
Zena Sochor, Ph.D., Assistant Professor of Government
Roger Van Tassel, Ph.D., Professor of Economics
Theodore H. Von Laue, Ph.D., Jacob and Frances Hiatt Professor of European History

International Relations Concentration

Clark's International Relations Program (IR) constitutes neither a department nor a major but rather a concentration or a subfield within two existing majors, history and government. Recent developments in world affairs have broken down the old disciplinary boundaries between diplomatic history and international relations, making an interdisciplinary approach essential. The IR core curriculum, consisting of seven interrelated courses, provides an integrated framework for understanding international affairs from historical, political, and economic perspectives.

Requirements:

A. A student wishing to pursue a history concentration or a government subfield in international relations must take the following six courses plus the capstone seminar.

1. Government 169 Introduction to International Relations
2. Government 249 International Political Economy

3.	History 190	Twentieth-Century Global History
4.	History 238	U.S. Foreign Relations Since 1914
5.	Economics 10	Issues and Perspectives
6.	Economics 108	International Financial Developments
7.	Government 289/ History 291	Seminar: Advanced Topics in International Relations

B. In addition, each IR student must fulfill the other existing requirements for his/her respective major. Students considering an IR concentration in history should note that the four core courses outside their history major fulfill requirements for four related courses.

Judaic Studies

PARTICIPATING FACULTY

Elana Ashley, Ph.D., Lecturer in Hebrew Language and Literature
Stanley M. Davids, M.H.L., Lecturer in Biblical Literature
Walter Schatzberg, Ph.D., Coordinator for Judaic Studies
Moshe Waldoks, Lecturer in Judaic Studies and History

The following courses in Judaic studies are offered in the Departments of Geography, History, and Foreign Languages and Literatures. For course descriptions check the course listings under those departments. For further information concerning the Judaic Studies Program and to discuss the possibility of integrating Judaic studies courses within various departmental majors, contact Ms. Ashley, Mr. Waldoks, or Mr. Schatzberg.

HEBREW LANGUAGE AND LITERATURE COURSES

(See Department of Foreign Languages and Literatures.)

11 ELEMENTARY HEBREW

Refer to course description under Hebrew.
Ms. Ashley

12 INTERMEDIATE HEBREW

Refer to course description under Hebrew.
Ms. Ashley

130/131 ADVANCED HEBREW

Refer to course description under Hebrew.
Ms. Ashley

HEBREW LITERATURE/JUDAIC STUDIES COURSES CONDUCTED IN ENGLISH

120 THE PROPHETS OF ISRAEL

Refer to course description under Hebrew.
Mr. Davids

121 WISDOM LITERATURE

Refer to course description under Hebrew.
Mr. Davids

122 THE JEWISH LEGAL TRADITION
Refer to course description under Hebrew.
Mr. Davids

123 THE RABBINIC LITERARY TRADITION
Refer to course description under Hebrew.
Mr. Davids

140 THE JEWISH MYSTICAL TRADITION
Refer to course description under Hebrew.
Mr. Davids

150 CULTURE OF EASTERN EUROPEAN JEWRY
Refer to course description under Hebrew.
Mr. Waldoks

185 TRENDS AND VALUES IN MODERN JEWISH LITERATURE
Refer to course description under Hebrew.
Mr. Waldoks

HISTORY

173 INTRODUCTION TO ANCIENT JEWISH CULTURE AND HISTORY
Refer to course description under History.
Mr. Waldoks

223 THE AMERICAN JEWISH EXPERIENCE: A HISTORY OF JEWS IN THE UNITED STATES
Refer to course description under History.
Mr. Waldoks

276 MODERN JEWISH INTELLECTUAL HISTORY
Refer to course description under History.
Mr. Waldoks

277 HISTORY OF ZIONISM AND THE RISE OF ISRAEL
Refer to course description under History.
Mr. Waldoks

278 HOLOCAUST: THE DESTRUCTION OF EUROPEAN JEWRY (1933-1945)
Refer to course description under History.
Mr. Waldoks

CLASSICS

160 JEWS AND CHRISTIANS IN THE ANCIENT WORLD
Refer to course description under Classics.
Mr. Burke

Linguistics and Language Learning

PARTICIPATING FACULTY

James Macris, Ph.D., Professor of English and Linguistics, Program Director
Helen J. Kenney, Ed.D., Professor of Education
Walter Schatzberg, Ph.D., Professor of German

GRADUATE PROGRAM

The Program in Linguistics and Language Learning leads to an M.A. degree with two distinct degree options: an M.A. in linguistics and an M.A. in education. The latter degree has three concentrations:

1) the teaching of English as a foreign language
2) the teaching of modern foreign languages (French, German, Hebrew, Russian, and Spanish)
3) bilingual/bicultural education

Foreign Language Requirement

Students who intend to teach foreign languages already should have a good command of one foreign language and at least a reading knowledge of a second. Those enrolled in the M.A. program in linguistics should have done at least three years of college work on one foreign language.

Individuals who lack this requirement may arrange to meet it while they are enrolled in the program. Alternative means of meeting the requirement may be arranged by consultation.

M.A. Thesis or Alternative Requirement

Students who are taking the M.A. degree in linguistics must write an acceptable thesis. Those taking the M.A. degree in education must complete a long project, write a long analytical paper, or write an acceptable thesis.

COURSES

20 ENGLISH AS A SECOND LANGUAGE

This course is designed primarily to improve speaking and writing skills through individual instruction. Some attention will be paid to reading and to aural comprehension. Methods and exercises will be suited to the needs of each student as determined in an individual evaluation by the instructor at the beginning of the semester.
Staff

88 DIRECTED READINGS

Offered for variable credit.
Staff

89 DIRECTED WRITING

Staff

90 SPECIAL PROJECTS

Offered for variable credit.
Staff

114 GENERAL PHONETICS AND PHONEMICS
Phonetics is the scientific study of all the physical aspects of speech. Phonemics treats of the systematic nature of the use of the physical means to form the communication systems we call languages. This course is concerned with language in general, so as to provide the theoretical framework necessary for describing the pronunciation system of any language. It includes the fundamentals of articulatory and acoustic phonetics, and it proceeds to general structural phonemics and some of its modifications and the theoretical questions raised by them. Prerequisite: permission of instructor. This course, or its equvalent, is a prerequisite to Linguistics 260 (Linguistics and Language Learning). The instructor is prepared to suggest alternative ways of meeting the prerequisite, however.
Staff

115 MAN AND LANGUAGE
This is an introduction to the analysis of nature and function of human language and its role in the life of individuals and societies. The approach is interdisciplinary, with attention to the points of view of philology, contemporary linguistics, anthropology, psychology, and philosophy. The lectures focus on such questions as: What is language? What is the relation between language and thought? To what extent does our language determine how we perceive the world? Why and how do languages change? What other functions does language serve besides communication? Why do we not have a world language? How have linguists achieved an objective, scientific analysis of linguistic systems? What are the limitations of such a science? The course is designed for the general student who wishes to know more about the nature of the uniquely and universally human institution of language and for the student or teacher of English or foreign language who is interested in the light linguistic science can throw upon the relations between his or her field and other areas of life and knowledge. Prerequisite: permission of instructor.
Staff

192 LANGUAGE IN SOCIAL CONTEXT
This is a look at language from the perspective of sociolinguistics. The course will view spoken discourse as situated action, whose meaning both reflects and creates the social context in which it takes place, whether in the everyday world or the world of the literary text. Starting with the notion of speech communities, the class will consider how verbal performance varies as individuals and groups assume different roles in different situations. Topics will include ritualized speech events, linguistic subcultures, male-female language, code-switching, bilingualism, and functions of language in the classroom. Discussion and reading will be supplemented by several short observational tasks. The class is limited to 20 students. Also listed for credit as Comparative Literature 192 and Education 192.
Ms. Nigrosh

260 LINGUISTICS AND LANGUAGE LEARNING
This is an exploration of various fields of linguistic study from the point of view of their relevance to foreign language learning. Intended to meet the needs of two classes of students: 1) prospective foreign language teachers who already have advanced mastery of their foreign language and 2) other students with a more general interest in the nature of language, whose

primary orientation may be toward related problems in, for example, psycholinguistics or sociolinguistics. Approaching language as *behavior* and as *system*, the course directs attention to the levels ranging from the cultural system to the system of the language as a whole and finally to its subsystems: lexical, grammatical, and phonological. Prerequisite: Linguistics 114, which may be taken either prior to or concurrently with this course, and for which substitutes may be available if the instructor is consulted well in advance; permission of instructor. Also listed for credit as Education 260.
Staff

281 THE DEVELOPMENT OF THE ENGLISH LANGUAGE, I & II

The first semester (I) deals with the development of the phonology and lexicon of English, viewed as a dynamic series of systems. The course also describes the homeland, language, and culture of the Proto-Indo-Europeans as background for a treatment of the structural relationships between English and other languages of the Indo-European family. The second semester (II) concentrates on the development of the grammar of English, also treated dynamically and systemically. The course includes an analysis of the establishment of Standard British English, the doctrine of correctness, and the growth of Modern American English in its sociocultural setting. Prerequisite: permission of instructor.
Mr. Macris

285 SEMANTICS

This course studies meaning. It deals with and classifies the changes in the meanings of words and phrases, and it analyzes simile and metaphor. It also deals with the parametric organization of the semantic system. Some attention is paid to the relation between thought and language. Prerequisite: permission of instructor.
Mr. Macris

286 SEMINAR: LINGUISTIC APPROACHES TO LITERATURE

This is a study of what modern linguistics has to offer in the analysis and criticism of literature, with special attention to the contributions of the transformational-generative, tagmemic, and parametric approaches. Prerequisite: permission of instructor.
Mr. Macris

287 INTRODUCTION TO LINGUISTICS

This course is devoted to the theory and methodology of descriptive linguistics. It deals with the nature and function of language, the relation between speech and writing, phonology, morphology, syntax, lexicology, the sociocultural setting of language, the contact of linguistic systems, and the problems of "correctness." Emphasis is placed upon the dynamics of systems analysis. Prerequisite: permission of instructor.
Mr. Macris

288 COMPARATIVE AND HISTORICAL LINGUISTICS

This course examines the theory and methodology of comparative and historical linguistics. It focuses on problems in analyzing languages with and without a literary tradition, the comparative method and reconstruction, glottochronology, linguistic borrowing, and linguistic geography.

Emphasis is placed on the dynamics of systems analysis. Prerequisite: permission of instructor.
Mr. Macris

290 DIRECTED RESEARCH
This is a semi-independent study of an approved topic under the direction of a faculty member. Prerequisite: permission of instructor.
Staff

295 TEACHING ENGLISH AS A SECOND LANGUAGE
This course covers the principles and practice of second-language teaching, with emphasis on the application of modern linguistics to the teaching of English as a second language. Prerequisite: permission of instructor. Also listed for credit as English 295 and Education 265.
Mr. Macris

350 MASTER'S THESIS
Prerequisite: consent of program director.
Staff

388 GRADUATE DIRECTED READINGS
Offered for variable credit.
Staff

The following courses are recommended to students interested in linguistics and language learning:

English 282 OLD ENGLISH
Refer to course description under English.
Mr. Macris

English 284 SEMINAR: MODERN AMERICAN ENGLISH
Refer to course description under English.
Mr. Macris

Philosophy 185 PHILOSOPHY OF LANGUAGE
Refer to course description under Philosophy.
Mr. Derr

Management

DEPARTMENT FACULTY
Harold T. Moody, Ph.D., Associate Professor of Management
William Naumes, Ph.D., Associate Professor of Management
Mark S. Plovnick, Ph.D., Associate Professor of Management
Patricia M. Anderson, Ph.D., Assistant Professor of Management
Thomas W. Landers, M.B.A., C.P.A., Assistant Professor of Management
Alan C. Simpson, Ph.D., Assistant Professor of Management
Daniel R. Kilty, Ph.D., Senior Lecturer in Management
David F. Votaw, Ph.D., Senior Lecturer in Management

Hava Kane, Instructor in Management
Margaret Naumes, Ph.D., Assistant Professor of Management (Affiliate)

UNDERGRADUATE MAJOR IN BUSINESS/MANAGEMENT

Students interested in a career in management immediately after graduation, whether in a profit or nonprofit organization (business, government, education, health care delivery, religious institution, etc.), should consider business/management as an undergraduate major. The major offers students the opportunity to develop skills useful for a career within the framework of a liberal arts education; with both educational breadth and practicality, the major offers important advantages.

Skills useful for a career or for additional training are developed at the same time as the student acquires the educational breadth and depth essential for personal and professional growth. The major draws upon a variety of disciplines and, therefore, provides a program that is practical as well as broadly educational. Such a program includes required and optional courses drawn from the offerings of a number of academic departments. Enrollment in the business/management major is limited and is based on performance in the freshman and sophomore year courses.

Within the general requirements of the program, and consistent with the concept of the extended major, students may wish to concentrate their interests in particular selections of departmental offerings that relate to aspects of management meeting their needs and interests. For example, computer science, mathematics, statistics, and accounting electives provide a basis for a career in the data processing, computational, planning, and related specialties; psychology, sociology, philosophy, and government stress human behavior in a social context; courses in STS and environmental affairs or international development further an awareness of issues and skills useful in managing public and private responses to important issues; language and literature courses help develop the skills in oral and written communication essential in virtually all aspects of management.

While students may extend their interests in any of the above directions, it should be noted that the general thrust or bias of the program is a humanistic one. This emphasis stems from the following considerations:

a) the University's desire to place the program well within the liberal arts framework (All courses are properly part of a liberal arts program and also are selected as electives or parts of a major by students whose major may be in another area.)
b) a commitment to the idea that management, after all, is "getting things done through *people*."

Business/management at Clark offers students a vocational emphasis providing the necessary prerequisites for a job placement with a bachelor's degree. Students interested in graduate study toward a master of business administration degree are encouraged to major in an area other than business/management.

UNDERGRADUATE MAJOR

Required course: Psychology 101 (General) or Sociology 101 or Government 150. The particular course chosen should be appropriate for future work in a particular track. Tracks requiring advanced work in one of these fields assume that the appropriate prerequisite has been taken.

Core-related courses for all majors: (Note: These courses should be taken approximately in the order listed. Some courses are cross-listed.)

Economics 10, Issues and Perspectives
Economics 11, Principles of Economics
Computer Science 101, Introduction to Computer Programming or 103, Introduction to Cobol Programming
Management 201, Principles of Accounting, or Economics 121, Introduction to Accounting Principles
Economics 160, Introduction to Statistical Analysis

JUNIOR LEVEL

Management 203, Managerial Accounting
Management 210, Management and Behavioral Principles
Management 230, Marketing Management
Management 240, Corporate Finance
Management 250, Operations Management
Management 262, Corporate Social Responsibility, or Philosophy 144, Business Ethics

SENIOR LEVEL

Management 225, Human Resource Management
Management 260, Business Policy
Management 278, Business Law

Students must, by the first semester of their junior year, declare themselves as pursuing tracks A, B, C, D, or E within the major. Additional courses from a track are required for completion of the major. The tracks are as follows: Management and Technology, Economics and Finance, Public Policy, Human Resource Management, Quantitative Analyses for Management.

A. *Management and Technology:* (For students choosing this track at least one course in the basic sciences is required as a prerequisite; e.g., Biology 108, Chemistry 200, or Physics 11.) Four out of six of the following courses are required.

1. STS 101, Introductory Case Studies
2. Environmental Affairs 201, Application of Systems Analyses to Environmental Problems
3. Geography 157, Introduction to Resource Management
4. Biology 238, Issues in Public Health
5. Sociology 282, Industrial Sociology
6. Environmental Affairs 210, Environmental Protection

B. *Economics and Finance:* Four out of six of the following courses are required.

1. Economics 205.1, Microeconomic Theory
2. Economics 205.2, Macroeconomic Theory
3. Economics 113, Monetary Economics, Theory, and Policy
4. Management 242, Investments
5. Management 303, Managerial Economics (seniors only)
6. Economics 266, Applied Statistics and Econometrics

C. *Public Sector Management:* : Four out of six of the following courses are required.

1. Government 109, Introduction to Public Policy and Administration
2. Government 110, Dimensions of Administrative Practice
3. Economics 126, Public Policy Toward Business

4. Sociology 246, Social Planning and Social Policy
5. Management 225, Human Resource Management
6. Government 213, Policy Analysis

D. *Human Resource Management:* Four out of six of the following courses are required.

1. Management 225, Human Resource Management
2. Sociology 291, Small Group and Interpersonal Processes
3. Sociology 256, Social Stratification
4. Government 214, Business and Politics
5. Philosophy 177, Concepts of Self
6. Psychology 170, Introduction to Social Psychology

E. *Quantitative Analyses for Management:* Four out of six of the following courses are required. (Note that this track assumes appropriate prerequisite work in Mathematics.)

1. Mathematics 120, Linear Programming
2. Management 251, Operations Research
3. Economics 266, Applied Statistics and Econometrics
4. Economics 265, Basic Econometric Theory
5. Computer Science 201, Advanced Computer Programming
6. Mathematics 12, Calculus

It is important to note that in addition to the formal requirements of the major, students are strongly advised to take courses in foreign languages, mathematics, and writing.

UNDERGRADUATE/GRADUATE PROGRAM

The Department of Management offers undergraduate students the option of participating in a five-year program while at Clark. In this program they may earn a B.A. in their major, as well as the M.B.A. degree. The major features of the program are:

1) an undergraduate major in any of the liberal arts disciplines at the University. Business/management is not acceptable as a major for this program.
2) a series of undergraduate courses in management which can be used as electives or as preparatory courses for the graduate M.B.A. program
3) a working internship off campus to bridge theory and practice, normally during the junior year
4) graduate courses, beginning in the senior year, which can lead to the M.B.A. degree, and which help prepare students for management positions in business, government, and nonprofit organizations

The five-year program is designed to meet several needs expressed by students today. First, it provides a series of undergraduate courses for students who would like to know something about the field, whether they intend to pursue such a career or are interested in better understanding the society in which they live. Second, these same courses can serve as preparatory courses for many M.B.A. programs across the country, including the Clark University M.B.A. Program. Third, an internship provides needed field experience before a student enters graduate school. Fourth, the total time required by many students who want to pursue both a liberal arts major and a graduate M.B.A. degree can be reduced to a minimum.

The program is designed to provide education which will give both the preparation for immediate employment and the potential for growth toward important positions in organizations. Ultimately, the program is an attempt to bridge the gap between liberal arts education and practical applied learning.

The Program

The program is a carefully designed sequence of educational and work experience, which involves each student from the freshman year through the graduate year. Although it is possible to begin the program as a sophomore, the demands of the program are such that only those who begin early in their college careers may be able to complete all requirements within five years.

Briefly, the program involves five sets of learning experiences:

1) a sequence of four undergraduate management courses in the freshman, sophomore and junior years preparing students for an off-campus internship
2) related courses in other departments in economics, statistics, computer programming, psychology, and mathematics, which contain the tools needed for the graduate courses in management
3) an off-campus internship lasting six months, earning four credits, where work experience can be gained
4) graduate management courses taken in the senior year
5) completion of the graduate program during the fifth year

Advising of Students and Entrance into the Program

The department expects to be closely involved in the advising of each student who is interested in the five-year program. Since students will be involved in their own majors during their undergraduate years, the required management courses, as well as the necessary related courses in other departments, must be closely controlled so that students will be able to complete both the major and the M.B.A. within a five-year period.

Entrance into the program occurs at two levels. Before enrolling in Management 208, Cases in Management, students will make an application to the Department of Management for participation in the five year program internship. Normally, all students who are accepted for the internship will complete it prior to their senior year, so that this decision includes a commitment by both the student and the department. After returning from the internship, students may begin taking graduate courses in the M.B.A. program during their senior year if all prerequisites have been satisfied. During the last semester of the Junior year, students may apply for admission to the Graduate School. If the application is approved, students will be conditionally accepted upon their successful completion of the B.A. degree. In this way, the department accepts students into the M.B.A. program while they are still in the junior year.

To summarize: There are two decision points, one after the sophomore year, which involves application for the internship, and the second, during the junior year, which is the application to the Graduate School.

The Internship

Each internship is a carefully matched experience between a student and a work situation in the management community. Internships will normally occur during the junior year and will typically involve six months of work experience (spring semester and a summer). The internship is counted as an academic experience for one full semester or four credits.

The department arranges job placement and oversees students while on the job. Students are provided introductory material to their internships in Management 208 and are able to share the experiences of students currently involved in internships. During Management 208, arrangements are made for each internship. Finally, while in the internship, student interns are also involved in seminars within the department to enrich their learning experience.

For students who are interested in international business and management, an option for the internship is work abroad. Prerequisite for participation in this option are two years' study of another language. The internship is coordinated with the University's Department of Foreign Languages and Literatures.

A written project based on the student's experience in the internship is required for the successful completion of the academic credit. This paper, as well as the work experience itself, is under the direction of departmental faculty members.

Summary of Requirements:

1) Eight undergraduate courses in management—100, 201, 202, 208, and an internship (4 credits)
2) Six related courses—Economics 10, 11, 160, one computer, one writing, and one psychology
3) Thirteen M.B.A. courses—five as an undergraduate following the internship, eight as a graduate including electives and thesis/directed research
4) A major applied research project or two applied research projects

If students wish to concentrate heavily in one area, the major project should be chosen (2 credits). If students wish to cover more areas of concentration, two papers are written in each of two different areas (1 credit each).

COURSES

100 SURVEY OF MANAGEMENT

A one semester course, offered each semester, as a survey of management theories and practices. It examines the functions of management, such as marketing, finance, operations, and information systems, and it deals in the human side of management, such as personnel, work group formation, and organization development.
Staff

201 PRINCIPLES OF ACCOUNTING

Elements of generally accepted accounting procedures are presented for several major types of institutions, such as business, government, educational, and health. This course may be considered the equivalent of Economics 121, Introduction to Accounting Principles; both courses can not be taken for credit.
Staff

202 MANAGERIAL FINANCE

This course is a study of financial decision making from the perspective of

the internal financial manager. Topics covered include the sources of financing and allocation of resources. Accounting data to implement economic models is used. This is a required course for the five-year B.A./ M.B.A. program. Prerequisite: Management 201.
Staff

203 MANAGERIAL ACCOUNTING
This advanced course emphasizes accounting from the management perspective. Students learn principles of managerial decision making when using accounting information. Prerequisite: Management 201.
Staff

208 CASES IN MANAGEMENT
This one-semester course provides an overview of the management decision making which interrelates all of the functional and behavioral areas, using a case approach. While in this course, students will meet with current interns to discuss their experiences and learning processes in work environments. Finally, students consider, evaluate, and select an internship in this course, if desired. This course normally is required prior to taking an internship. Prerequisites: Economics 10 and 11, Management 201 and 202.
Staff

210 MANAGEMENT AND BEHAVIORAL PRINCIPLES
The course concerns general principles of management, with a special emphasis on the behavior of people in an organizational context. Topics include principles of organization, decision making, leadership, motivation and rewards, job satisfaction, and appraising employee performance.
Staff

225 HUMAN RESOURCE MANAGEMENT
This course will cover the general areas of human resource management, to include job design, recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO, OSHA requirements, manpower planning, and women in management. Prerequisite: Management 210.
Staff

230 MARKETING MANAGEMENT
This course surveys the role of marketing in business and society, focusing on specific marketing activities. Topics include the study of consumer behavior, market segments, and product positioning, as well as new product development and policy, pricing, distribution, advertising, and sales management. Prerequisites: Economics 10 and 11, Management 201 and Statistics.
Staff

240 CORPORATE FINANCE
This course is a comprehensive study of financial decision making from the perspective of the internal financial manager. Topics covered include both the varied sources of financing and the efficient allocation of resources. The main format is the use of accounting data to implement economic models. Prerequisites: Economics 10 and 11, Management 201 and a course

in statistics. This course may be considered the equivalent of Economics 122; both cannot be taken for credit.
Staff

242 INVESTMENTS

This course will cover investment principles, market behavior, and investment strategy. Investment principles will include: portfolio selection—both fundamental analysis (security analysis) and portfolio theory (technical analysis); debt instruments and money markets; the stock option market; and alternative investments. Prerequisite: Management 240.
Staff

250 OPERATIONS MANAGEMENT

This course will survey techniques in the area of model building and operations research. Emphasis will be on topics oriented toward business forecasting as well as rational decision making by managers. Topics will include forecasting, inventory control, system reliability, waiting-line theory, and assembly-line balancing. Prerequisites: Economics 10 and 11, Management 201 and a course in statistics.
Staff

260 BUSINESS POLICY

This capstone type course should be taken during the senior year. Business policy focuses on those general management skills involved in choosing the strategy (or goals and purposes) of organization and in committing critical resources to the organization's goals. The course integrates the major management functions, viewing the organization not only as an organic entity comprising a system in itself, but also "impacting" on and "impacted" by its environment. The method of instruction will be case study. Prerequisites: Economics 10, 11, Management 210, 230, 240, 250, and Statistics.
Staff

262 CORPORATE SOCIAL RESPONSIBILITY

Managers must understand their environment to make effective decisions. This course focuses on the interaction between the manager and societal forces. Political, social, economic, and legal issues will all be considered. The role of value and ethics in evaluating these environmental forces will be analyzed. The primary method of instruction will involve the use of cases. Paper and group presentations will be required. The course will integrate analytical skills relating to the environment developed in the basic and core courses. Prerequisites: Management 210 and 230.
Staff

278 BUSINESS LAW

The course examines the legal framework within which American business operates. It is concerned with the various laws that determine the rights and obligations of persons taking part in business transactions. Emphasis will be on those areas of the law commonly encountered by the business manager, such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability. The goal will be to provide students with a basis and understanding of the business and legal environment, which will guide

future management decisions and inquiry. There will be assigned textual readings and class discussion of cases selected to illustrate these topics.
Staff

199 INTERNSHIP
Offered for variable credit.

299.9 INTERNSHIP—FIVE-YEAR PROGRAM
The five-year program requires a four (4) credit internship in the spring semester of the junior year.
Staff

THE GRADUATE PROGRAM

The M.B.A. program has unique features, which should be evaluated by prospective students in light of their interests and preferences. First, only the most important topics in the study of management are included: marketing, finance, operations management, and organization behavior. These topics are applied to a wide variety of organizations. Second, to complete the graduate program, students must create a part of their program in conjunction with the faculty, administration, and other students. Third, the department is not solely committed to the study of business organizations. The faculty believes the study of management applies to all organizations, nonprofit as well as profit. Consequently, the theoretical core of each field of study is emphasized, and descriptive institutional material is used to particularize the core. The mix of students in the program including current and future managers of educational, health, religious, government, and business organizations forces the faculty to focus on the universal principles of managing. Fourth, graduate courses and seminars are scheduled in the late afternoons and evenings. These hours do not mean it is an evening program for part-time students, with a separate program in the daytime for full-time students. It is one program, with both part- and full-time students attending the same courses, seminars, and special projects. This aspect of the program contributes a unique atmosphere in which students learn from each other's wealth of different practical and academic experience.

The M.B.A. program requires 16 graduate credits for the degree, equivalent to four semesters of full-time graduate study. The 16 credits are organized into four categories of course work and independent study (courses meet for 14 weeks, three hours a week, unless otherwise indicated):

1) *Required Background Courses*—These courses are designed to introduce students to the fundamental language, concepts, and skills underlying the traditional or core functional fields of management. Students with previous course work or experience in these areas may elect to waive these courses by taking and passing waiver exams.

Management 301, Managerial Accounting and Finance
Management 302, Quantitative Methods
Management 303, Managerial Economics

In addition to taking the courses, students must have a basic knowledge of computer programming. This requirement may be met by taking a noncredit, short computer course or by passing a waiver exam. Students who have already completed a computer programming course are considered to have met the requirement.

2) *Required Core Management Courses*—These courses are intended to provide students with basic background knowledge and skills in several important functional areas in Management.

Management 310, Organization Behavior
Management 330, Marketing Management
Management 340, Financial Management
Management 350, Operations Management
Management 362, Corporate Social Responsibility

3) As a capstone course for the M.B.A., Business Policy (Management 360) or Small Business Management (Management 361) is required.

4) *Electives*—These courses are designed to meet three objectives: They focus students more intensively on advanced topics in a particular functional area (e.g., Marketing Research), or they provide students an opportunity to integrate previous course work by applying their knowledge/skills to a particular problem area (e.g., Small Business Management), or they provide students an opportunity to explore important related topics in management (e.g., Legal Aspects of Management).

5) *Required Research Projects*—Students are required to engage in some form of faculty-supervised independent study in management in order to demonstrate their ability to apply management concepts and techniques to management problems. This research may take the form of empirical scientific studies; comprehensive case analyses; development of quantitative models for forecasting and inventory control, comprehensive review of previous work in some managerial area, or some other approved project.

Research must culminate with either of two products: (1) a major applied research project in one area or (2) two applied research projects in two different areas of management. The independent research project(s) can be counted as up to 2 credits toward the 16-credit requirement for the M.B.A. degree. For more information, contact the department.

COURSES

301 MANAGERIAL ACCOUNTING AND FINANCE

This course is designed to provide an understanding of accounting measurements and an appreciation of the ways in which managers use accounting data. It deals with concepts and tools of analysis necessary for the selection, quantification, and communication of business events through the accounting process. It deals with (1) analysis of cost-volume-profit decisions, (2) the use of standard costs and flexible budgets as a means of managerial control, (3) evaluation of management performance, and (4) relevant cost analysis, with special reference to capital budgeting problems.
Staff

302 QUANTITATIVE METHODS

This course provides an introduction to basic mathematical and statistical

techniques of potential use to management. Topics covered are probability, statistical estimation and inference, elementary decision theory, regression analysis, optimization, and matrix algebra.
Staff

303 MANAGERIAL ECONOMICS

Designed to provide an overview of micro- and macroeconomics, this course helps students gain a general understanding of economics as it affects and can be influenced by the manager. Examples of subject areas covered include monetary and fiscal policies, national income and product, demand and cost analysis, pricing, theory of production, profit and income determination and forecasting.
Staff

310 ORGANIZATION BEHAVIOR

This course is designed to give students an opportunity to *experience* and investigate the relevancy to management of a series of topics whose bases can be found in psychology, social psychology, and sociology. In general, the course explores the interaction between individuals and the systems in which they live and work. It attempts to give insight into the impact on people of their own individual characteristics and of their personal interactions, group situations, and organization structures.
Staff

311 ORGANIZATION STRUCTURE AND PROCESS

This course is designed to study issues relating to the interaction between organizational structure and processes and individuals within organizations. The primary focus is on the formal and informal organization. Constraints and opportunities presented by organizations will be studied extensively. A combination of lectures, readings, and cases will be used in the course. The course is designed primarily around class discussions of cases, however. Cases will be used to develop skills—analyzing and developing solutions for organizational issues and problems. Students will be expected to prepare case analyses both individually and in groups. Prerequisite: 310. Also listed for credit as Education 311.
Staff

315 SEMINAR IN ORGANIZATION THEORY

This seminar is primarily oriented to those students who desire a more thorough background in, and understanding of, the literature in the area of management and organization behavior. Through readings and discussions, the course will trace the evolution of organization theory to modern theories of organization design and managerial behavior. Prerequisite: Management 310.
Staff

318 GROUP DYNAMICS

This is a study of small-group behavior in an organization context. The class uses itself as the object of study to understand group behavior. The course covers (a) a brief but comprehensive survey of small group research findings; (b) the primary concepts of group dynamics, e.g., norms, cohesion, conformity, goals, influence, and values; and (c) special topics related to management and organization change, such as group decision

making, planning and conducting of meetings, and small group leadership. Prerequisite: 310.
Staff

319 SEMINAR IN ORGANIZATION BEHAVIOR

Staff

320 ORGANIZATION DEVELOPMENT

This course is a survey of and introduction to the field of organization development and change. The course covers the behavioral science theories associated with organization development and an overview of the technologies and methods typically employed in the practice of organization development. Prerequisite: 310.
Staff

322 CONSULTING STRATEGIES AND SKILLS

This course is a study of the consultant as a change agent. Consultation is considered both from the perspective of a person external to an organization and of an internal person (that is, an employee of the organization). The general frame of reference is organization development consultation, and emphasis is placed on understanding various strategies and methods of consulting as well as on the skills involved. Prerequisites: 320 and 318.
Staff

325 PERSONNEL MANAGEMENT

This course will cover the general areas of human resource management to include job design, recruitment, management development, performance appraisal, counseling, labor relations and collective bargaining, wages and fringe benefits, EEO, OSHA requirements, manpower planning, and women in management. Prerequisite: 310.
Staff

329 SEMINAR IN HUMAN RESOURCE MANAGEMENT AND ORGANIZATION DEVELOPMENT

Staff

330 MARKETING MANAGEMENT

This course surveys the role of marketing in business and in society, focusing on specific marketing activities. Topics include the study of consumer behavior, market segments, and product positioning, as well as new product development and policy, pricing, distribution, advertising, and sales management. The course combines background material with case analysis to supply experience in weighing all marketing factors in managerial situations. Prerequisites: 302 and 303.
Staff

331 MARKETING RESEARCH

This course develops the concepts and tools needed for determining the actual market for products and service. Concepts, such as demand forecasting, consumer attitudes and buying intentions, and consumer images, are developed. Various statistical tools, such as experimental design, sampling theory, regression analysis, questionnaires, and scaling

techniques, are used in these analyses. Prerequisite: 330.
Staff

332 APPLIED MARKETING PROJECTS

This is a "workshop" seminar for students involved in applied marketing projects. The seminar meets weekly with students critiquing each other's work. Topics are assigned as required by the research in progress. Prerequisite: 331.
Staff

334 CONSUMER BEHAVIOR

This course will focus on the interpretation and use of consumer behavior concepts and empirical data in the development of marketing plans and the analysis of marketing management decisions. Both traditional individual consumer behavior and organizational buying behavior will be discussed. Prerequisite: 330.
Staff

335 INTERNATIONAL MARKETING

This course takes a management approach and considers the problem of marketing across national boundaries and within a number of different national markets. It will cover the international environment and the problems and decisions facing marketing managers, such as the kinds of products, pricing, and promotion necessary to coordinate the firm's international activities. Cases, research projects, occasional guest lecturers, and readings will be used to supplement classroom work. Prerequisite: 330.
Staff

336 MARKETING AND MANAGEMENT OF SERVICE ORGANIZATIONS

This course is designed to integrate the management and marketing functions of service organizations into a unified whole. In every single organization which exists, administrators and managers must understand who needs and who is interested in what the organization does—whether profit oriented, non-profit, or a governmental agency. This course reviewed the traditional marketing mix in the context of service organizations, while primary focus is on decisions and planning not traditionally evaluated for their impact on marketing.
Staff

337 INDUSTRIAL MARKETING

A survey of the special problems of marketing to industrial and other organizational customers. This course is designed for existing or future marketing managers and also for managers of allied functions including R & D, engineering, production, purchasing, and corporate planning/strategy. Prerequisite: 330.
Staff

339 SEMINAR IN MARKETING

Staff

340 FINANCIAL MANAGEMENT

This course is a comprehensive study of financial decision making from the

perspective of the internal financial manager. Topics covered include both the varied sources of financing and the efficient allocation of resources. The main format is the use of accounting data to implement economic models. Prerequisites: 301, 302, and 303.
Staff

341 CORPORATE FINANCE

This course is a survey of recent developments in financial management. Theory, test of theory, and problems in practical implementation are discussed. Application of a portfolio theory and operations research techniques are emphasized. Prerequisite: 340.
Staff

342 INVESTMENTS

This course will cover investment principles, market behavior, and investment strategy. Investment principles will include: portfolio selection—both fundamental analysis (security analysis) and portfolio theory (technical analysis); debt instruments and money markets; the stock option market; alternative investments—private placements, real estate, land, tax shelters. Students will receive a substantial sum of "money" to invest individually. The objectives will be the discipline of following the dynamics of the market, the experience of investment emotions, and a means to apply actual stock selections. Guest speakers from various sections of the investment community will be invited to present their views and will be available for discussion. Prerequisite: 340.
Staff

343 ADVANCED MANAGERIAL ACCOUNTING

This course is designed to explain how accounting data, utilized properly, can help to solve problems that confront those who are directly responsible for the management of an enterprise. Topics on standard cost and budgeting bring in behavioral characteristics that should be considered by the manager in the determination of the level of standards, the evaluation of variances, the preparation of budgets, and the use of budgets in control. Prerequisite: 301.
Staff

344 FEDERAL TAX ACCOUNTING

This is a basic course in the principles of federal income tax laws as they pertain to individuals, partnerships, corporations, estates, and trusts. It is a study of the general rules and accounting principles required, with emphasis on preparation of tax returns via specific problem analysis. Prerequisite: 301.
Staff

349 SEMINAR IN FINANCE

Staff

350 OPERATIONS MANAGEMENT

This course will survey techniques in the area of model building and operations research. Emphasis will be on topics oriented toward business forecasting, and rational decision making by managers. Topics will include model formulation, Bayesian statistics, linear programming, dynamic

programming, time series analysis, queueing theory, and analysis of variance. Prerequisites: 301, 302, and 303.
Staff

355 PRODUCTION MANAGEMENT

An analysis of the variables involved in the design and management of "operating systems" in manufacturing and other work environments. This course will not teach specific operations research techniques for use in production, but will rely on the applications of basic economic analysis and cost accounting principles and techniques. Prerequisite: 350.
Staff

359 SEMINAR IN OPERATIONS MANAGEMENT

Staff

360 BUSINESS POLICY

Business policy focuses on those general management skills involved in choosing the strategy (or goals and purposes) of organizations and in committing critical resources to the organizations' goals. The course integrates the major management functions, viewing the organization as an organic entity comprising a system in itself but "impacting" on and "impacted" by its environment. The method of instruction will be case study. Prerequisites: 310, 330, 340, and 350.
Staff

361 SMALL BUSINESS MANAGEMENT

This course is a survey of the particular problems involved in the initiation and operation of a small business, with special emphasis on the problems of market structure, finance, and productivity. Entrepreneurial organization and style are discussed relative to a growing and increasingly complex society. Case study and field research projects are the primary method of instruction. Prerequisites: 310, 330, 340, and 350.
Staff

362 CORPORATE SOCIAL RESPONSIBILITY

Managers must understand their environment to make effective decisions. This course focuses on the interaction between the manager and societal forces. Political, social, economic, and legal issues will be considered. The role of value and ethics in evaluating these environmental forces will be analyzed. The primary method of instruction will involve the use of cases. Paper and group presentations will be required. The course will integrate analytical skills relating to the environment that were developed in the basic and core courses. Prerequisites: 310 and 330.
Staff

367 MANAGEMENT OF TECHNOLOGICAL INNOVATION

This course will present: an overview of the unique characteristics of technology intensive situations; an understanding of the innovative process; a model for relating R & D with marketing, manufacturing, and corporate strategy; and experiences in applying previously learned behavioral, economics, and managerial concepts and techniques to the design and management of organizations dedicated to technological innovation.
Staff

368 MULTINATIONAL BUSINESS

This survey course will cover such functional areas as organization, marketing, finance, planning, and the multinational environment. It will cover strategies for developed and developing countries, with specific reference to Europe and Latin America. Prerequisites: 310, 330, 340, and 350.
Staff

372 WOMEN IN THE WORK PLACE

The course proposes to provide students with an understanding of theories in the areas of behaviorism, personality, and cognitive development as they relate to the recent research findings of women in the work force. Topics will include attitude formation and change, prejudice and discrimination, stereotyping, out-role behavior, assertiveness, career advancement, job modality stress, and power relationships. The instructional format will be comprised of lectures, class discussions, films, and exercises in group dynamics.
Staff

378 LEGAL ASPECTS OF MANAGEMENT

The course examines the legal framework within which American business operates. It is concerned with the various laws that determine both the rights and obligations of persons taking part in business transactions. Emphasis will be on those areas of the law which are commonly encountered by the business manager, such as contract negotiation and provisions, the Uniform Commercial Code, government regulations, consumer protection, and tort liability. The goal will be to provide students with a basis and understanding of the business and legal environment, which will guide future management decisions and inquiry. There will be assigned textual readings and class discussion of cases selected to illustrate these topics.
Staff

398 DIRECTED RESEARCH IN MANAGEMENT

Offered for variable credit.
Staff

399 DIRECTED READINGS IN MANAGEMENT

Offered for variable credit.
Staff

Mathematics

DEPARTMENT FACULTY

Edward Cline, Ph.D., Associate Professor of Mathematics, Acting Chair
John F. Kennison, Ph.D., Professor of Mathematics
Robert W. Kilmoyer Jr., Ph.D., Associate Professor of Mathematics
Stanley J. Poreda, Ph.D., Associate Professor of Mathematics
John S. Stubbe, Ph.D., Associate Professor of Mathematics
David E. Joyce, Ph.D., Assistant Professor of Mathematics
Lawrence E. Morris, Ph.D., Visiting Assistant Professor of Mathematics

Evelyn B. Vaskas, Ph.D., Assistant Professor of Mathematics, part time
Karim Kably, M.S., Instructor, part time

UNDERGRADUATE PROGRAM

The Mathematics Department serves four distinct areas in the University. The mathematical services facility is available for students interested primarily in elementary mathematics. The department offers several courses of a general nature to meet the needs of students in all levels who are interested in mathematics is a discipline in itself or as a foundation for further study in other disciplines. The undergraduate mathematics major provides a number of different tracks which introduce a student seriously interested in mathematics to this subject and to its applications. Finally, beginning in the fall of 1981, the department will offer a major in computer science for the first time (pending final approval by the Undergraduate Academic Board).

MATHEMATICAL SERVICES: A variety of elementary mathematical needs are met by the Math Clinic and Tutorial (Mathematics) 10. Students work at their own pace and choose a program suited to their own needs. The course is not offered for credit.

Math 11 is primarily a precalculus course. Students may also use this course as a way to strengthen their background in high school mathematics.

GENERAL COURSES: Knowledge of calculus (beginning with Math 120) is essential for any serious student of the physical sciences or mathematics. It is used heavily in economics and has been applied extensively in other disciplines.

Math 120 is normally open to freshmen; however, students with a weak background are advised to take Math 10 or Math 11 first. A placement test will be given during orientation week and other diagnostic tests are available for students who are uncertain about which course to take. The placement test is available at the Mathematics Office and is required of all students who wish to take a mathematics course at or beyond the level of Math 120. It is possible to omit Math 120 and 121, and begin with Math 130 (Intermediate Calculus) if sufficient achievement is shown on the advanced placement test given in high school. If this is done, the student automatically receives credit for Math 120 and 121.

Students who need a basic course in computer programming might take Math 117, which could be followed by Math 118 or 119. Linear algebra has many applications in the sciences and the social sciences. Math 113 is an introduction to this subject; Math 115 is a follow up containing advanced topics. Students who wish to experience some of the beauty of mathematical reasoning at an elementary level might take Math 102, 104, 107, or 113.

The department offers several basic advanced courses in abstract mathematics on a reading basis: Math 214, Math 215, Math 218 and Math 245. The first three, particularly, are designed for students majoring in pure mathematics and others who have strong backgrounds, a taste for logically rigorous mathematics and a willingness to work independently. Students interested in the pure mathematics track of the mathematics major and others interested in these couses should contact the department for information in this part of the program.

THE MAJOR IN MATHEMATICS

The prospective major is urged to visit the department and to discuss fully the different approaches to the major made available by the department. There are programs in pure mathematics, actuarial science, mathematics/computer science, mathematics/education, and mathematics/management. The objectives and requirements for these programs are outlined below. Although the following descriptions of each option are brief, we hope they indicate the nature of the program involved. We encourage students to call on the department for additional information.

PURE MATHEMATICS: The pure mathematics major at Clark is designed for two groups of students. The first includes the liberal arts student interested in the broad spectrum of mathematical thought who does not wish to limit himself/herself to the more well-defined vocational objectives of the other majors. Such a student will find sufficient flexibility in the program to meet his/her needs. The second group consists of those students planning graduate work in mathematics. The mathematics requirements for this major are 10 semester courses including Math 120, 121 (or the equivalent), 130, 131, 113, and two semesters of a 200-level mathematics course (usually 214 or 215). It is further expected that each major will have a culminating mathematical experience serving to give direction to his/her studies. This requirement will normally be satisfied by an advanced course, either a reading course or an advanced undergraduate course (making a total of three semesters of 200-level courses) or a graduate course. Alternatively, the requirement may be met by an honors project, work study, interdepartmental readings, or other such experiences upon departmental approval, which should be obtained before the senior year. For the student planning to enter graduate school, the department strongly recommends that both the 214 and 215 sequences and at least one graduate course be taken.

The pure mathematics major has a science minor requirement. The objective is that the student be involved in a science to a sufficient depth to ensure that some of the uses of mathematics are illustrated. Each student will take four semester courses in one of the science departments, at least one of which uses mathematics heavily. Introductory courses, which are designed for nonmajors, will not be counted towards the minor. Ordinarily, minors from chemistry, physics, and science, technology and society are acceptable without approval. Certain minors from economics, geography, music, philosophy (related to the study of mathematical truth), psychology, and sociology are acceptable with departmental approval.

APPLIED MATHEMATICS: The applied mathematics major is designed for students interested in the application of mathematics to science or social sciences. The major emphasizes analysis for the physical sciences and probability and statistics for the life and social sciences. In addition to those students interested in the applied mathematics major (either alone or as a component of a dual major), it is hoped that the list of courses below will be useful to science students designing a minor in mathematics.

The major will require 10 semester hours of mathematics including Math 120, 121, 130, 131, 113, 117 (or the equivalent), 140, and either 216 or 217. The remaining required courses should be from among the following: 100, 118, 119, 143, any 200-level course, and certain additional consortium courses upon departmental approval. It is strongly recommended that students interested in physical sciences take 216 while those interested in life and social sciences take 217. The student interested in graduate school should consider the other 200-level courses, especially 214.

The minor requirement consists of a substantial sequence of courses in a mathematically oriented science. The requirement is five semester courses which must not include introductory courses for nonmajors. Minors from chemistry, physics, and science, technology and society are acceptable without approval. Certain minors from biology, economics, geography, psychology, and sociology are acceptable with departmental approval. The criterion will be that a large proportion of the courses involve the application of mathematical techniques.

ACTUARIAL SCIENCE: Actuarial science could be described as the science of finance and insurance. A program of study in this field requires a firm grounding in mathematics, but involves problems that cut across the interface of statistics, economics, demography, law, and business management as well.

The requirements for this major consist of courses in mathematics, management, and computer science relevant to actuarial science, specifically: Math 120, 121, 130, 131, 117, 118, 143, 217, English 18 or an approved substitute, plus four units to be chosen from the following: Math 100, 119, 247, Computer Science 102, 103, Management 121, 122, 350, Economics 10, or certain other courses with departmental approval.

It is also possible to replace, with departmental approval, the management courses with the following COPACE courses: Management 121 by BA 117(a) and (b), Management 122 by BA 118, Management 350 by BA 176.

Additional courses in computer science, economics, and management are recommended as a supplement to this major. Math 150 (Problems Seminar) also is available for those students who wish to prepare for specific actuarial examinations. Please consult with the department for further details regarding actuarial science.

MATHEMATICS/MANAGEMENT: The objective of this program is to make available to the mathematically inclined student the opportunity to prepare for (1) a career in business management, (2) graduate study in operations research, or (3) graduate work in a master of business administration program. Course requirements: Math 120, 121, 130, 131, 217. At least two units from the following: Math 100, 118, 119, 143, 247; computer science: Math 117, or CS 101, and at least one additional unit from the following: CS 102, 103, 140; management science: Mgmt 100, plus at least one unit from the following: Mgmt 121, 122, 201, 310, 330, 350. It is also possible to replace (with departmental approval) the required management courses with the following COPACE courses: Mgmt 121 by BA 117 (a) and (b); Mgmt 122 by BA 118, Mgmt 310 by BA 195, Mgmt 330 by BA 124 and Mgmt 350 by BA 176; Economics; at least two units, not to include courses which are principally mathematical.

It is also recommended that, as a supplement to this major, students taken Math 143 and 247. In computer science, CS 103 is also strongly recommended. A student anticipating further study in an M.B.A. program should attempt to take all the management courses listed above and possibly one or more graduate courses in management. Finally, students are encouraged to acquire a reading knowledge of at least one foreign language.

MATHEMATICS/EDUCATION: The Mathematics/Education Program is designed for the student preparing to teach in the secondary school. This program consists of (1) major in mathematics, containing courses relevant to students' future needs in teaching, (2) a minor in education, and (3) additional courses which will help to integrate students' involvement in mathematical education with other areas of knowledge.

The specific course requirements for this major are as follows:

1) The major in mathematics consists of eight units. Math 120, 121 (or the equivalent), 113, 217, 102 are required and the remaining courses may

be chosen from Math 115, 104, 107 and any 200-level course. All majors are required to take at least one unit of a 200-level mathematics course.

2) The minor in education consists of psychology 130, Education 290, 217, 272, and 150.
3) Additional course requirements: (a) an introductory laboratory course in the life or physical sciences, (b) four semester courses in any of the following areas: economics; English; foreign language; geography; geology; government; history; linguistics; management; philosophy; psychology; sociology; science; technology and society; visual and performing arts.

The minor for this program is designed to meet the present certification requirements in Massachusetts.

MATHEMATICS/COMPUTER SCIENCE: This program enables the student to major in mathematics with emphasis on computer science and its applications, for example, in operations research. It provides a firm foundation for further work or graduate study in computer science. This major should be seriously considered as a possible dual major with any field which draws upon computer science as a method of analysis. Course requirements: Math 120, 121, 130, 131, 217, 117 or Computer Science 101, Math 118, 119, Computer Science 102, 103, 140, Math 100 or 247. In addition, an advanced course in computer science (at Clark or W.P.I.) or an advanced project must be undertaken. Consult department for approval.

THE UNDERGRADUATE MAJOR IN COMPUTER SCIENCE

This major is currently under development. Pending final approval the department will begin to admit students to this major in the fall of 1981. Students interested in pursuing this major during the academic year 1980/81 should consult the Mathematics Department for further details.

The Computer Science major at Clark is designed for the education of computer scientists who will also have a solid background in mathematics. The department requires the student to develop skills in the areas of software and systems design. The basic goal of the major is to produce a sophisticated user of the computer who is able to apply his/her expertise in other areas. Therefore, to encourage breadth in the program, we require the student to do significant work in a minor area in which there are extensive computer applications.

COMPUTER SCIENCE REQUIREMENTS: The required courses in computer science develop the student's skills in software and systems design. As the student progresses through the program he/she learns to work with successively higher levels of organization of information. The first three courses (CS 101, CS 102, CS 140) introduce the student to computer programming and are intended to enable the student to write a correct program, well documented, in a reasonable amount of time. The problem of understanding the movement and storage of information inside the computer is treated in CS 150 and CS 160. In addition CS 150 introduces the student to COBOL, the main language for business applications. The remaining courses introduce the student to the whole systems analysis process in which one starts with a problem, more or less vaguely defined, and proceeds to a concrete solution.

The required courses are: CS 101, CS 102, CS 140, CS 150, CS 160, CS 220, CS 250.

The following electives are highly recommended: CS 145, CS 155, CS 170.

MATHEMATICS REQUIREMENTS: The computer science major requires a total of six mathematics courses, including two electives. The required courses are: Math 120, Math 121, Math 113, and Math 147. The latter is a new one-semester course in probability and statistics designed to present a practical overview of the field. Students must choose two electives from the following: Math 100, Math 107, Math 118, Math 119, Math 217, Math 244, Math 245, Math 247.

THE MINOR REQUIREMENT: The department requires a four course concentration in one of the following areas: economics; geography; management; mathematics; physical sciences; science, technology and society. The courses chosen must not include introductory courses for non-majors.

If the minor chosen is mathematics, the student is advised to concentrate on modelling. In particular, the department recommends that the student include Math 100, Math 118, Math 119, Math 247 and possibly Math 217 if he/she minors in mathematics.

GRADUATE PROGRAM

The department offers courses leading to the degrees of master of arts and doctor of philosophy.

The requirements for the M.A.* are: (1) 10 full courses at least 8 of which must be on the 300 level. These courses usually include one or two full courses of Mathematics 330 — the writing of the master's thesis. They may include seminars and reading courses; (2) the basic courses, Mathematics 316, 318, and 325 must be included. Each of these requirements may be waived for a student presenting evidence satisfying the department of his or her knowledge of the material in question; (3) a master's thesis, and (4) an oral examination.

A student working toward the Ph.D. degree and electing to omit the M.A. thesis and M.A. oral examination will be recommended for the M.A. degree upon successful completion of the Ph.D. preliminary examination.

The requirements for the Ph.D.* follow the general requirements of the graduate school. The Ph.D. preliminary examination is usually given orally, but may be written under certain circumstances. Students should consult with their advisers by November of their second year. Students entering with a master's degree should discuss the examination immediately. Failure to take this examination at the appropriate time may result in the department not recommending a student for continued support. Scholarships, graduate instructorships, and new courses are subject to final approval by the Graduate Board.

The language requirement will be considered to have been fulfilled if the candidate can demonstrate sufficient linguistic ability to carry on effective research in his or her field. The department's decision will depend heavily upon the recommendation of the candidate's adviser.

*All candidates for the M.A. and Ph.D. degrees in Mathematics will be required to serve as teaching assistants or as assistants in the computing center as part of the work for their degrees.

MATHEMATICS COURSES

10 MATH CLINIC AND TUTORIAL

Individual conferences, diagnostic tests, programmed exercises, and projects are used to develop mathematical skills, concepts, and confidence. This course does not involve classes, but relies on a one-time approach. This course is not offered for credit.
Staff

11 INTRODUCTION TO MATHEMATICS

This course covers the algebra and trigonometry needed for calculus. It covers cooodinate geometry, functions, and their graphs. Basic techniques for working with functions are included. Entering students should have a solid grasp of elementary algebra.
Mr. Kennison, Staff

88 DIRECTED READINGS IN MATHEMATICS

Offered for variable credit.
Staff

89 SPECIAL PROJECTS IN MATHEMATICS

Offered for variable credit.
Staff

100 MATHEMATICAL MODELS

This course introduces the student to the concept of a mathematical model and its application to the solution of real problems. Examples will include application in the areas of finance, transportation, production scheduling, economics, and population theory. The course will include analysis of models constructed by students.
Mr. Joyce

102 INTRODUCTION TO GEOMETRY

This course starts with revisiting Euclidean geometry, then leads, via Desargues's and other theorems, to projective geometry. Some transformations of the plane are considered. Finally, some finite geometries are studied. One of the aims of this course is to show the beauty of the deductive approach in mathematics. Prerequisite: equivalent of Mathematics 11 (Formerly Mathematics 124.)
Staff

104 THEORY OF NUMBERS

This is an introduction to number theory and also aims to train students to understand mathematical reasoning and learn to write proofs. The topics covered include the unique factorization of integers as products of primes, the Euclidean algorithm, congruencies, Fermat's theorem, and Euler's theorem (and some applications of the latter, e.g., magic squares). Prerequisite: equivalent of Mathematics 11. (Formerly Mathematics 125.)
Staff

107 INTRODUCTION TO MATHEMATICAL LOGIC

The propositional calculus and the first order predicate calculus, which consist of a language and a method of proving statements made in that language, will be constructed and discussed predominantly in relation to mathematical questions such as consistency and completeness. (Formerly Mathematics 140.)
Mr. Kennison

113 MATRICES AND LINEAR ALGEBRA

The course is a study of the fundamental results and computational techniques of matrix algebra and vector spaces. Topics covered may include systems of linear equations, Gaussian elimination, matrix algebra, determinants, vector spaces, and linear transformations and applications. Also the

numerical analysis relevant to the fundamental computer algorithms related to this subject is discussed.
Mr. Cline

115 INTERMEDIATE LINEAR ALGEBRA

This course continues the study of linear algebra initiated in Math 113. Topics may include eigenvectors, eigenvalues, canonical forms, bilinear forms and applications. Again the numerical analysis relevant to computer applications is discussed in this course. Prerequisite: Math 113.
Mr. Cline

116 COMPUTER SIMULATION OF SOCIAL AND ECOLOGICAL SYSTEMS

Refer to course description under Science, Technology and Society 116F. Also listed for credit as Environmental Affairs 116F.
Mr. Gould

117 FORTRAN FOR SCIENCE STUDENTS

This is a half-semester introductory FORTRAN programming course, designed especially for students intending to pursue a major in the mathematically-oriented sciences or for those who possess a fair amount of mathematical sophistication. Although there are no prerequisites, students should have taken about three years of math in high school and should be able to handle elementary algebraic expressions and problems. This course will introduce the basic elements of FORTRAN language and an overview of computer programming and data processing in general. The course is essentially an accelerated version of Computer Science 101. Offered for half credit the first half of Semester 1. (Formerly Mathematics 118.)
Mr. Stubbe

118 ELEMENTARY NUMERICAL ANALYSIS

This is a half-semester introductory course in numerical analysis and the application of computers to the solution of certain numerical problems. Topics covered will include interpolation, error analysis, and interactive methods. Prerequisite: Mathematics 121 and either Mathematics 117, Computer Science 101, permission of instructor. Offered for half credit the second half of Semester 1. (Formerly Mathematics 119.)
Mr. Stubbe

119 LINEAR PROGRAMMING

This course will cover linear programming, its applications, and numerical algorithms. The simplex method, the theory of duality, and several of the methods used in more specialized problems such as the transportation problem, network flow problems, or the assignment problem may be included. The linear algebra necessary will be covered in the course.
Mr. Cline

120 CALCULUS, PART I

Introduction to differential and integral calculus of one variable. This course is essential for further study in mathematics as well as for the study of applications in the natural sciences. Not open to students who have taken Mathematics 125 or 126. May be taken in either semester. (Formerly Mathematics 12a.)
Mr. Cline, Mr. Kilmoyer, Ms. Vaskas, Staff

121 CALCULUS, PART II

Introduction to differential and integral calculus of one variable; sequences and series. This course continues Math 120. Not open to students who have taken Mathematics 126. May be taken in either semester. Prerequisite: Mathematics 120 or 125. (Formerly Mathematics 12b.)
Mr. Joyce, Staff

130 INTERMEDIATE CALCULUS, PART I

This course assumes the knowledge of one variable calculus and deals with functions of several variables. Topics covered include partial derivatives, line and surface integration, and sequences and series. Applications of these topics to complex analysis, vector analysis, and Fourier analysis are considered. Prerequisite: Mathematics 121 or 126. (Formerly Mathematics 13a.)
Staff

131 INTERMEDIATE CALCULUS, PART II

This course is a continuation of Mathematics 130. Prerequisite: Mathematics 130. (Formerly Mathematics 13b.)
Staff

140 ELEMENTARY DIFFERENTIAL EQUATIONS

This is an introduction to elementary techniques and concepts for solving and applying differential equations. The equations discussed appear in biology, economics, the physical sciences, and other fields. They give mathematical models describing exponential growth, exponential growth with bound, vibrating springs, planetary motion, and other similar situations. Prerequisite: Mathematics 131 or permission of the instructor (Formerly Mathematics 145.)
Mr. Joyce

143 ACTUARIAL SCIENCE

This course deals with the mathematics of finance and its applications. Compound interest, life contingencies, and population theory will be among the topics covered. The course is designed to introduce the student to the material included in the third and fourth (F.S.A.) actuarial exams. Prerequisite: Mathematics 121 or permission of the instructor.
Staff

150 PROBLEMS SEMINAR

This course emphasizes the creative use (as opposed to the mere acquisition) of mathematical tools. Students should develop their mathematical resourcefulness by pursuing one or more of the "problem areas" presented. The problems will be fairly specific yet open-ended and of interest to students at varying levels and with differing mathematical tastes. The course should be good preparation for actuarial examinations, for Mathematics 200, and for students who eventually wish to construct and analyze mathematical models in, for example, the social sciences.
Mr. Kennison

200 ADVANCED PROJECTS

This course is intended for students pursuing advanced projects that involve mathematics. These projects might arise from mathematics or from some other discipline. Signature required. Offered for variable credit.
Staff

214 MODERN ANALYSIS
Topological and metric methods are introduced and studied. These generalize and explain many ideas first encountered in calculus. These methods will be applied to study differentiation, integration, and convergence, among other topics, in greater depth. Prerequisite: Mathematics 131 or 113 or permission of instructor.
Staff

215 MODERN ALGEBRA
This course introduces the theory of groups, rings, fields, integral domains, canonical forms, and related topics. The treatment will be axiomatic with emphasis on the construction of the proofs of certain theorems. Prerequisite: 113 or permission of instructor.
Staff

216 INTRODUCTION TO FUNCTIONS OF A COMPLEX VARIABLE
This is an introductory course designed for the undergraduate science major or graduate student preparing for Mathematics 316. Cauchy's theorem, Power series, Laurent series, the residue theorem, harmonic functions, and physical applications, such as problems in two dimensional flow, are among the topics to be covered. The object is to convey understanding of the classical theorems of complex analysis as opposed to rigorous proofs of their most general statements.
Staff

217 PROBABILITY AND STATISTICS
This course is designed to introduce students to the theory and applications of probability and statistics. Techniques used to solve problems will be stressed along with the associated mathematical theory. Among the topics covered are combinatorial methods, postulates of probability, stochastic processes, probability densities, mathematical expectation, sampling distributions, estimation, hypothesis testing, regression, and correlation. The syllabus for this course includes most of the material recommended for those preparing for the second (F.S.A.) actuarial examination.

218 INTRODUCTION TO TOPOLOGY
Point set topology, metrization theorems, extension theorems will be covered during the first half. During the second half, algebraic topology, a branch of mathematics that studies properties of solids and surfaces under continuous deformation (i.e., the geometry of rubber sheets), will be introduced. Topics in homotopy and homology theory will be covered.

244 DIFFERENTIAL EQUATIONS
First order and linear differential equations are covered. Various methods of solution are stressed, i.e., series, integrating factors, variation of parameters, etc. An introduction to partial differential equations and boundary value problems is discussed, with some applications to fluid and thermal dynamics.

245 APPLIED MATHEMATICS
This course studies the development of orthogonal functions, Fourier Series, Legendre Polynomials, and Bessel functions and their use in solving

heat conduction and vibration problems, the Laplace Transfrom. Corequisite: Mathematics 130 or 131.
Staff

247 OPERATIONS RESEARCH

Linear models, linear programming, the simplex method, sensitivity analysis, network analysis, and dynamic programming will be covered in this one-semester course. Prerequisites: Mathematics 120 and 113.
Staff

290 TOPICS IN ANALYSIS

Content will be changed from year to year; interested students should contact the department secretary for details. Offered for variable credit.
Staff

292 TOPICS IN TOPOLOGY

Topics from the theory of algebraic topology and differential geometry will be given. Course content will be changed from year to year.
Mr. Cline

293 HONORS I

Offered for variable credit.
Staff

299 HONORS II

Offered for variable credit.
Staff

COMPUTER SCIENCE COURSES

CS 101 INTRODUCTION TO COMPUTER PROGRAMMING—BASIC

This is an introductory programming course designed for students with no mathematics beyond high school algebra. The emphasis of the course will be on using the computer and the basic programming language as a tool for solving problems in any discipline. Students develop a working knowledge of character representation and manipulation, number representation and arithmetic, subroutines and functions, arrays and indexing, and, most of all, structured programming techniques and algorithms that make programming easier. (Formerly a course in FORTRAN IV.)
Staff

CS 102 COMPUTER APPLICATIONS

Advanced topics in computer use are covered including searching and sorting, file design recursion, lists, stacks and queues. Several projects requiring programming skill are assigned. Prerequisite: Computer Science 101 or permission of instructor.
Staff

CS 103 INTRODUCTION TO COBOL PROGRAMMING

The concepts of COBOL, today's most widely used programming language for business applications, are introduced. The student is expected to complete a number of programming assignments during the course. Prerequisite: CS 101 or permission of instructor.
Mr. Larson

CS 140 ASSEMBLER LANGUAGE PROGRAMMING

This course is designed to enable the student to write substantive programs in assembler language for the P.D.P. 11/70. While a knowledge of higher level language is not necessary some familiarity with computer operations would be helpful. Otherwise, permission of instructor required.
Staff

CS 145 INTRODUCTION TO COMPUTER ORGANIZATION

A study of computer organization, operating systems, and logic design, this course is intended for students with a strong interest in computers and computing systems. Topics include the structure and organization of the major components of computers, and the mechanics of information transfer and control within the system. The functional, logical level is emphasized rather than the circuit details of hardware. Prerequisite: CS 102.
Staff

CS 150 INTRODUCTION TO FILE PROCESSING

Intended for the computer science student interested in the use of computers in complex non-numeric applications, this course introduces data structuring techniques and surveys the basic management information systems. Emphasis is given to attributes and utilization of sequential access and random access media and to file and index organization. The hierarchical and network approaches to data bases are discussed. The background required is a thorough understanding of higher level programming. Prerequisite: CS 102.
Mr. Joyce

CS 155 OPERATING SYSTEMS AND COMPUTER ARCHITECTURE

This advanced course studies operating systems, their dependence on computer architecture, and their interaction with user programs. Student projects implement sections of operating systems. Prerequisite: CS 140 and CS 145.
Staff

CS 160 DATA STRUCTURES AND ALGORITHM ANALYSIS

A detailed study of data structures and algorithms, this course builds on the foundation established in CS 150. In particular, the algorithms required to support a data base management system are developed. The student learns to analyze data structures and algorithms for their efficiency. A project is assigned to develop a simple data base management system incorporating data structures search/sort/merge methods and memory management. Prerequisite CS 150.
Mr. Joyce

CS 170 COMPARATIVE ANALYSIS OF PROGRAMMING LANGUAGES

A number of programming languages are studied from a user point of view. Programming exercises in each language are assigned in a wide variety of applications. These exercises illustrate the run-time characteristics of the language and its special features such as list or string processing, and amenability to structured programming techniques. Prerequisite CS 102.
Staff

CS 201 ADVANCED COMPUTER PROGRAMMING

This course is designed for students with previous programming experience. Each student is expected to select and carry to completion a project requiring substantive computer analysis in machine language, assembler, or any higher level language. Offered for variable credit.
Staff

CS 220 DATABASE MANAGEMENT AND SYSTEMS DESIGN

An advanced course on the realities of database technology emphasizes the goals of database management: performance, data integrity, future compatibility, and versatility. The concept of data models is examined and specific database discussed. The student will design and implement a database management system that includes file security and query facilities. Prerequisite CS 160.
Staff

CS 250 SOFTWARE DESIGN AND DEVELOPMENT

Students work in teams to organize, develop, and manage a major project in software design starting with a problem, more or less vaguely defined and proceeding to a concrete solution. The course provides a means for applying techniques learned in earlier classes and obtaining experience in system analysis. Prerequisite: CS 160.
Staff

GRADUATE COURSES

300 SET THEORY

The course studies the foundations of set theory and the relationship of various fundamental axioms, such as Zorn's Lemma and the Axiom of Choice. Point-set topology is examined as far as the Hahn-Mazurkiewicz theorem.
Mr. Joyce

316 FUNCTIONS OF A COMPLEX VARIABLE

This course deals with the theory of functions of one complex variable that possesses a derivative. It is intended that the student in this course be brought to the point where he or she can comprehend the existing unsolved problems as well as the historical development and applications of this field. Among the most advanced topics are conformal mapping, entire functions, geometric function theory, approximation theory, and Banach spaces of analytic functions. Prerequisites: Mathematics 214 or permission of instructor.
Staff

318 FUNCTIONS OF A REAL VARIABLE

This is a course in the real number system, topology, measure theory, and related topics. Signature required.
Mr. Kennison

321 ALGEBRAIC TOPOLOGY

This is an introduction to algebraic topology including fibrations and coverings, homotopy, and homology. The relation with category theory will be emphasized. Prerequisites: Mathematics 215 and 318 or permission of instructor.
Staff

325 ADVANCED MODERN ALGEBRA

This course studies group theory, including the Sylow theorems, free groups, finitely generated abelian groups. Categories and functors, Ring Theory, including factorization in commutative rings, polynomial rings, modules over a p.i.d. duality, tensor products. Fields and Galois Theory, including field extensions, finite fields, cyclotomic fields, separability, the fundamental theorem of Galois Theory, and the general equation of degree n. linear algebra, including canonical forms of a matrix, and bilinear forms. If time permits, the Wedderburn structure theorems for Artinian rings. Prerequisite: Mathematics 215.
Mr. Kilmoyer

326 SELECTED TOPICS IN COMPLEX ANALYSIS

The course includes topics selected from the theory of univalent and multivalent functions, geometric function theory, zeros of polynomials, and extremal polynomials. Prerequisite: Mathematics 316 or permission of instructor.
Staff

327 FUNCTIONAL ANALYSIS

Offered as a full course.
Staff

330 MASTER'S THESIS

Offered as a full course.
Staff

335 SELECTED TOPICS IN ALGEBRA

Prerequisites: Mathematics 325 or permission of instructor.
Staff

341 DIFFERENTIAL EQUATIONS

The course covers ordinary differential equations, theory, and techniques of solutions; partial differential equations; Fourier transform, distributions, and their applications.
Staff

358b CATEGORY THEORY

This is an introduction to the basics of category theory.
Staff

376 REPRESENTATION THEORY OF FINITE GROUPS

Prerequisite: Mathematics 325 and permission of instructor.
Staff

381 SEMINAR IN COMPLEX VARIABLES

Offered as a full course.
Staff

382a SEMINAR IN ABSTRACT ANALYSIS

Offered as a full course.
Staff

383 SEMINAR IN ALGEBRA
Offered as a full course.
Staff

384 SEMINAR IN CATEGORY THEORY
Offered as a full course.
Mr. Kennison

390 READINGS IN MATHEMATICS
This course offers reading of the mathematical literature related to the student's research program.
Staff

Music

See Department of Visual and Performing Arts.

Philosophy

DEPARTMENT FACULTY

Gary E. Overvold, Ph.D., Associate Professor of Philosophy, Department Chair
Albert A. Anderson, Ph.D., Associate Professor of Philosophy
Walter E. Wright, Ph.D., Associate Professor of Philosophy
Patrick G. Derr, Ph.D., Assistant Professor of Philosophy
Jonathan M. Bordo, Ph.D., Assistant Professor of Philosophy
Christina Hoff, Ph.D., Assistant Professor of Philosophy
David A. Miller, Ph.D., Assistant Professor of Philosophy
Kristin Waters, Ph.D., Visiting Assistant Professor of Philosophy
Barbara Carlson, A.M., Teaching Associate
Peter Longo, B.A., Teaching Assistant

UNDERGRADUATE PROGRAM

The department offers courses to students who wish to broaden their intellectual perspective by tracing relations among the various fields of knowledge and to those who wish to major in Philosophy.

The requirements for the Philosophy major are: one course in logic (Philosophy 101 or 160), two courses in the history of philosophy (121, 122, 123, or 125), four advanced courses (140–299), and at least one elective. The four advanced courses must include at least one course from each of the three areas listed (values, knowledge, and being). At least one of the advanced courses must be a seminar.

In addition to the core major, each student will be required to achieve competence in another discipline. This can be done either by completing the requirements for a double major or by completing six courses in related fields. In consultation with the adviser, the student selects four courses in one discipline (three must be above the introductory level) and two courses from other areas.

For students who are motivated to undertake substantial independent research, the department offers both a senior thesis program and departmental honors in Philosophy. Departmental honors are conferred upon majors who, in addition to the usual requirements, fulfill the following three prerequisites: (1) successful completion of a senior thesis, including the oral defense; (2) successful completion of a comprehensive written examination in the major; and (3) an academic record of at least B+ in the major and B overall.

The following table of course distribution summarizes the requirements and options for Philosophy majors.

INTRODUCTORY COURSES

Analytic Reasoning
Problems of Philosophy
Personal Values
Introduction to Logic

INTERMEDIATE COURSES

History of Ancient Philosophy
History of Medieval Philosophy
History of Renaissance and Modern Philosophy
Medical Ethics
Legal Ethics
Business Ethics
Social and Political Ethics
History of Contemporary Philosophy

ADVANCED COURSES

A. PROBLEM OF VALUES

Problems of Ethics
Aesthetics
Social Philosophy
Philosophy of Religion
Philosophy of Law
Philosophy of Education
Theory of Value
History of Philosophy courses
Seminars in Philosophy
Advanced Topics in Philosophy

B. PROBLEM OF BEING

Metaphysics
Ontology
Phenomenology
Philosophy of Mind
Concepts of the Self
Existentialism
Kierkegaard and Nietzsche
History of Philosophy courses
Seminars in Philosophy
Advanced Topics in Philosophy

C. PROBLEM OF KNOWLEDGE

Epistemology
Recent Continental Philosophy

Philosophy of Science I
Philosophy of Science II
Philosophy of Social Science
Philosophy of Language
Philosophy of Mathematics
History of Philosophy courses
Seminars in Philosophy
Advanced Topics in Philosophy

INTRODUCTORY COURSES

100 PROBLEMS OF PHILOSOPHY

This is an introduction to fundamental problems of philosophy through study of alternative philosophical positions. Problems of ethical, political, and aesthetic value; knowledge and reality; religious belief; and human nature and freedom are considered through reading major works by philosophers such as Plato, Descartes, Hume, Kant, Nietzsche, James, Camus, and Whitehead. Limited to freshmen.
Mr. Anderson

101 INTRODUCTION TO LOGIC

This is a study in logic as philosophy and practice. It is an introduction to the meaning of logical reasoning with a study of its principles and methods; an investigation of the philosophical presuppositions of logic.
Mr. Overvold, Mr. Wright

102 PROBLEMS OF PHILOSOPHY

The course studies the nature and methods of philosophy, with application of philosophical method to contemporary personal and social problems. Detailed analysis of some typical problems in various fields of philosophy is included. Open to freshmen and upperclassmen.
Mr. Derr

103 ANALYTIC REASONING

The purpose of the course is to develop the skills of analytic reasoning. One major element in this exercise is the analysis of a number of argumentative essays on various topics, e.g., capital punishment, the character of science, the problem of evil, the nature of law, abortion, etc. We shall analyze such material with an eye toward its cogency and its persuasiveness, i.e., what are the premises and conclusions, what are the significant presuppositions and implications, and what are the argumentative tactics and strategies employed. These essays will be drawn from a variety of sources including classical works, journal articles, and newspaper editorials. The course work is designed to aid students in learning how to read, write, and think analytically and argumentatively.
Mr. Overvold

105 PERSONAL VALUES

The course involves exploration of philosophical approaches to the fundamental human value problems such as truthfulness, sexual integrity, love, violence, war, and death. The connection between personal value choices and ethical theories will be studied. Limited to freshmen.
Mr. Derr, Mr. Wright

110 PROBLEMS OF PHILOSOPHY

(See course description under Philosophy 102.) Not open to freshmen.
Staff

INTERMEDIATE COURSES

121 HISTORY OF ANCIENT PHILOSOPHY

The course examines the origins of philosophical thought in the West with emphasis on the early Greeks, Plato, and Aristotle. It includes examination of classical theories of man, society, and nature providing background for later philosophical reflection.
Mr. Anderson

122 HISTORY OF MEDIEVAL PHILOSOPHY

Students study the major Jewish, Islamic, and Christian philosophers of the medieval period, with special attention to Moses Maimonides, Averroes, Aquinas, and Ockham. Typical issues include the relation of faith and reason, the nature of universals, and political theory.
Mr. Derr

123 HISTORY OF RENAISSANCE AND MODERN PHILOSOPHY

The two great movements in modern thought—Continental rationalism and British empiricism—will be examined from their common origin in Descartes to their later articulations by Locke, Berkeley, Spinoza, Leibniz, and Hume. Particular emphasis is given to the powerful influences of the modern period upon contemporary philosophy.
Mr. Derr

125 HISTORY OF CONTEMPORARY PHILOSOPHY

This is an investigation of the major types of philosophical thought distinctive of recent philosophy: pragmatism, logical positivism, ordinary language, philosophy, existentialism, and phenomenology. Emphasis is upon each as a coherent perspective upon experience with a focus on the style and methodology of each view. Prerequisite: one full course in philosophy (Philosophy 123 or 124 is recommended).
Mr. Overvold

130 MEDICAL ETHICS

This is a philosophical investigation of typical issues in medical ethics. These may include: psychosurgery, behavior modification and control, euthanasia, suicide, definition of death, informed consent, moral issues in research and human subjects, genetic testing and counseling, abortion, cloning and in vitro fertilization, confidentiality and truth-telling, patients' rights, and allocation of scarce medical resources. (Formerly Philosophy 140.)
Mr. Derr

132 SOCIAL AND POLITICAL ETHICS

Value conflicts and alternatives are examined in the context of such social and political issues as policy making, representation, society and conscience, means and ends, authority, power, and the common good, with special emphasis on their bearing on current social problems.
Staff

133 BUSINESS ETHICS

This course will provide a philosophical survey of some typical issues in business ethics. These may include: truth in advertising, affirmative action and preferential hiring, professional responsibility, the environment, the moral status of capitalism, poverty and unemployment, and corporate involvement in politics and foreign affairs. (Formerly Philosophy 144.)
Mr. Derr

136 LEGAL ETHICS

Value issues are explored as they relate to legal institutions and practices: law and morality, professional ethics, the ground and nature of rights, the ideal of justice.
Staff

139 WOMEN AND PHILOSOPHY

This course is designed to be offered jointly by the department of Philosophy and the Women's Studies Program. It is concerned with examining two principal issues: First, attention is given to the prevalent images of women in the history of Western philosophical thinking, including the tradition's misogyny and the glimmerings of feminism in Mill, Wollstonecraft, and others. Second, the course will look at issues in contemporary philosophy affecting the interests and status of women, including current debates about sexual differences, the meaning of liberation vis-à-vis women, and the philosophical status of feminism as a social ideal. (Formerly Philsophy 149.)
Mr. Wright

ADVANCED COURSES

141 PROBLEMS OF ETHICS

The course offers consideration of important ethical theories to acquaint students with the problems and scope of ethics and to aid them in the formulation of an ethical outlook. Not open to freshmen.
Staff

142 SOCIAL PHILOSOPHY

Students examine principles underlying social structure and functions; the goals, purposes, norms, and ideals of social process; and the relation of that process to the individual good. Not open to freshmen.
Staff

145 EXISTENTIALISM

This is a study of the major philosophers in twentieth-century existentialism, with a focus on their redefinition of man in terms of his "lived world" and his nonrational capacities. Prerequisite: two full courses in philosophy.
Staff

148 HISTORY OF AMERICAN PHILOSOPHY

This is a survey of important philosophical ideas in America with emphasis upon their relationship to the American experience. Prerequisite: one full course in philosophy. (Formerly Philosophy 126.)
Staff

149 AESTHETICS

Students examine representative theories of the nature of the arts (literature, drama, music, and visual arts), the creative process, aesthetic experience, and art criticism, such as those of Aristotle, Nietzsche, Collingwood, Fischer, Dewey, Langer, Sartre, and Arnheim. Offered as part of a Humanistic Studies cluster. May be offered as part of a humanistic studies cluster. Refer to course descriptions under the Program of Humanistic Studies.
Mr. Anderson

150 PHILOSOPHY OF RELIGION

Students study the nature of religion as revealed by the examination of representative forms of religious experience. Emphasis is placed on the effect of contemporary knowledge on the understanding of the religious dimension. Prerequisite: one full course in philosophy.
Mr. Wright

151 PHILOSOPHY OF VALUE

A study of the value dimension in representative domains of human life and learning including the nature, function, and justification of value judgments; the nature of criticism; the role of psychological, social, and political conditions; and the foundations of such normative disciplines as art, science, ethics, and politics.
Mr. Anderson

152 PHILOSOPHY OF LITERATURE

Philosophical approaches to poetry, drama, and the novel through consideration of issues such as truth in literature, the writer and society, the nature of imagination, literary style, and criteria for criticism. Prerequisite: permission of instructor. (Formerly Philosophy 151.)
Mr. Wright

155 PHILOSOPHY OF SCIENCE I

The course concentrates on the following issues: What constitutes a scientific explanation? Can inductive inferences be justified? What grounds or reasons justify the claim that one theory is better than another? Are there such things as objective "facts"? Do scientific theories tell us what the ultimate constituents of the universe are? Prerequisite: one full course in philosophy (waived for science majors) or permission of instructor.
Mr. Derr

157 RECENT CONTINENTAL PHILOSOPHY

This course will introduce the student to some of the new philosophical movements emerging in Europe: hermeneutics, critical theory, and structuralism. Prerequisite: one full course in philosophy.
Staff

160 SYMBOLIC LOGIC

This is a basic course in symbolic logic with stress on principles of deductive rigor. There will be some consideration of the philosophical implications of logic. Topics to be discussed include: sentential calculus, predicate calculus, Tarski's definition of truth, selected metatheorems, and

Henkin's completeness proof for the first order predicate calculus. Prerequisite: permission of instructor.
Mr. Wright

162 AMERICAN SPACE AND ITS EUROPEAN ROOTS

This is an examination of the European images of the known world at the time of the discovery of America, and of how these early notions affected later thought about America in the areas of geography, philosophy, and the arts. Using literature, film, and other artistic forms, specific models are studied in a variety of contexts: the island, the city, the garden, the frontier, the general contrast between primitive and civilized spaces. The course is listed for credit as Comparative Literature 162, Geography 172 and English 172.
Mr. Anderson

170 KANT AND THE NINETEENTH CENTURY

Trends in philosophy during this period are considered as background for understanding recent philosophy. Philosophers studied may include Fichte, Hegel, Schopenhauer, Nietzche, Marx, Engels and Comte. Prerequisite: two full courses in philosphy; Philosophy 123 is recommended. (Formerly Philosophy 124.)
Mr. Wright

171 KANT

Immanuel Kant is viewed as a synthesis of the traditions of Continental rationalism and British empiricism. Prerequisite: two full courses in philosophy, including Philosophy 123.
Staff

174 PHILOSOPHY OF MIND

This is a critical examination of the "nature" or concept of mind. Related issues to be considered are: mind-body relationship, the identity theory of mind/brain, the thesis of the dualism of the mind and matter, and other themes that involve the philosophical examination of psychological phenomena. Prerequisite: two full courses in philosophy, preferably including at least one intermediate or advanced course.
Mr. Overvold

175 METAPHYSICS

Students receive clarification of the nature of metaphysical thinking and views of representative philosophers on the nature of space, time, causality, matter, force, self-identity, mind, body, and freedom. Prerequisite: two full courses in philosophy.
Mr. Anderson

176 ONTOLOGY

Two of the most fundamental issues in metaphysics are treated in depth: the problem of universals and the problem of substance. The course includes an examination of nominalism, conceptualism, realism, bundle theory, bare-particular theory, and essentialism. Prerequisite: two full courses in philosophy.
Mr. Derr

177 CONCEPTS OF SELF

This is an investigation of several perspectives on the nature of the human self. The course will deal with the writings of such thinkers and philosophers as Plato, Aristotle, Descartes, Hume, Heidegger, Strawson, Ornstein, and Castaneda. Emphasis is on group discussion and interaction. Prerequisite: two full courses in philosophy.
Mr. Wright

180 EPISTEMOLOGY

The study of epistemology is, broadly, the study of the nature of knowledge. Within this very general heading are a host of specific topics and from that group this course will focus on the interrelationships among belief, knowledge, evidence, proof, truth, and also will consider the problem of skepticism. Prerequisite: two full courses in philosophy.
Mr. Overvold

182 ROMANTICISM IN THOUGHT, LITERATURE AND THE ARTS: KIERKEGAARD AND NIETZSCHE

This course offers an interdisciplinary investigation of the themes of nineteenth century romanticism through the analysis of major writings by Soren Kierkegaard and Friedrich Nietzsche. Emphasis is on their doctrines of knowledge, existence, and man, and their relationship to romanticism in German and English literature and in music. Prerequisite: permission of instructor. This course is part of a Humanistic Studies cluster and also is listed for credit as Comparative Literature 182, English 182, and Music 182.
Mr. Overvold

185 PHILOSOPHY OF LANGUAGE

This is an analysis of the concepts of reference, meaning, rules, intentionality, intensionality, and the relation of language to thought. Particular attention is given to the speech act tradition (Austin, Grice, Strawson, Searle), the recent developments in transformational-generative grammar (Chomsky, Katz), and the implications of language theory for the social sciences (Ricoeur). Prerequisite: two full courses in philosophy or one full course in linguistics or permission of instructor.
Mr. Derr

186 PHILOSOPHY OF SCIENCE II

This is an advanced treatment of human rationality as exhibited in science. Prerequisite: two full courses in philosophy or three full courses in the sciences.
Mr. Derr

200 ADVANCED TOPICS IN PHILOSOPHY

This course offers group discussion, individual tutorials, and independent research in areas of philosophy. The independent research involves a topic of each student's choice within the designated area. Prerequisite: where appropriate, completion of regular departmental courses(s) in the area; two full courses in philosophy; and permission of instructor. Offerings vary each semester. Topics include: Husserl, philosophy of law, existentialism, German philosophy, social philosophy, philosophy of language, Greek philosophy, aesthetics, philosophy of logic. Offered for variable credit.
Staff

201 SURSEMINAR: RESEARCH AND WRITING IN PHILOSOPHY

Prerequisite: permission of instructor. Offered for half credit.
Staff

202 SURSEMINAR: PHILOSOPHICAL JOURNALS

Prerequisite: permission of instructor. Offered for half credit.
Staff

203 SURSEMINAR: TEACHING IN PHILOSOPHY

Prerequisite: permission of instructor.
Staff

204 SURSEMINAR: READINGS IN PHILOSOPHY IN GERMAN

Prerequisite: permission of instructor.
Mr. Wright

205 APPLIED AESTHETICS

The course offers examination of philosophical ideas in the context of concrete artistic phenomena. Topics will alternate among architecture, literature, music, theater, and the media. Emphasis will be placed both upon explication of artistic images and philosophical concepts.
Mr. Anderson

220–250 SEMINARS IN PHILOSOPHY

Students will undertake advanced studies of topics of central importance to philosophy. Offerings vary each year, but the following are typical and usually repeated. Prerequisite: two full courses in philosophy, including at least one advanced course. A complete list of offerings for 1980–82 is available in the department office.

220	Plato	Mr. Anderson
221	Aristotle	Mr. Derr
222	Philosophy of the Mind	Mr. Overvold
223	Hegel	Mr. Wright
224	Social Philosophy	Staff
225	Philosophy of Religion	Staff
226	Philosophy of Mathematics	Staff
227	Phenomenology	Mr. Overvold
228	Phil. of Social Science	Mr. Overvold, Mr. Derr
229	Kierkegaard	Mr. Overvold
230	Kant	Staff
231	Action Theory	Mr. Derr
232	Hermeneutics	Staff
233	Aquinas	Mr. Derr
234	Heidegger	Mr. Overvold
235	Cassirer	Staff
236	The Critique of Pure Reason	Staff

258 SELF, SYMBOL, AND VALUE

Students engage in an exploration of the self and its transformations from the perspectives of philosophy, literature, and the social sciences. The course examines such issues as the attainment and dissolution of personal identity, the role of language in the formation of the self, selfhood and sexuality, the self in relation to fantasy and imagination, the self and its

social context. The course is also listed for credit as Comparative Literature 258 and Psychology 258.
Mr. Kaplan, Ms. Kaufmann-McCall, Mr. Wright

272 AMERICAN SPACE AND ITS EUROPEAN ROOTS: CITIES AND CULTURE

This study is conducted primarily as a senior seminar in which comparative literature, geography, and philosophy provide integrated perspectives on the city. American and European models of classical and contemporary cities are used to analyze the historical, geographic, literary, architectural, and other cultural dimensions of Los Angeles, Athens, Boston, and Mexico City. The course is listed for credit as Comparative Literature 272, Geography 272, and Spanish 272.
Mr. Anderson, Mr. Bowden, Mr. D'Lugo

290 PHILOSOPHY OF EDUCATION

This course examines the aims, processes, and materials of education, with special reference to the influence of philosophical ideas on educational problems. The course also is listed for credit as Education 290.
Staff

299 SENIOR THESIS

Students will engage in advanced individual study of a philosophical problem. Normally this is a one-year program involving two full courses. Prerequisites: (1) permission of the department, usually granted only to majors having a minimum academic record of B+ in the major and B overall; (2) prior completion of at least five full courses in philosophy, including two courses at Level III; and (3) submission and approval of a thesis proposal. This proposal must describe the nature and scope of the projected work, include a bibliography of the anticipated principal sources, indicate why the proposed work is primarily philosophical, and be approved by the department and by the student's thesis adviser. If accepted, the proposal becomes a major criterion against which the completed thesis is judged. All prerequisites must be fulfilled before registration for thesis work: in practice, this means no later than spring of the junior year. Upon the student's completion of the thesis, the department will schedule an oral defense. (Note that successful completion of the thesis is a necessary but not a sufficient condition for departmental honors in philosophy—see above.) Offered for variable credit.
Staff

299.9 INTERNSHIP IN PHILOSOPHY

Offered for variable credit.
Staff

335 STUDIES IN AMERICAN INTELLECTUAL HISTORY

Independent studies, offered for variable credit. Also offered for credit as History 342.
Staff

Physics

DEPARTMENT FACULTY

Christoph Hohenemser, Ph.D., Professor of Physics, Department Chair
Roy S. Andersen, Ph.D., Professor of Physics
Madhoo Kanal, Ph.D., Research Professor of Physics (part time)
John A. Davies, Ph.D., Associate Professor of Physics
Robert L. Goble, Ph.D., Research Associate Professor of Physics
Harvey Gould, Ph.D., Associate Professor of Physics
Roger P. Kohin, Ph.D., Associate Professor of Physics
Peter C. Magnante, Ph.D., Research Associate Professor of Physics (part time)
Gary S. Collins, Ph.D., Research Assistant Professor of Physics
Christopher P. Landee, Ph.D., Assistant Professor of Physics

Affiliated Faculty

Edward L. O'Neill, Ph.D., Professor of Physics (affiliate)
Van Bluemel, Ph.D., Associate Professor of Physics (affiliate)
John Wild, Ph.D., Associate Professor of Physics (affiliate)

THE CURRICULUM

The academic program of the Department of Physics provides opportunities for study and experimental investigation of the basic principles that are fundamental in all science and have led to profound scientific, philosophical, and technological developments in the twentieth century. The department's offerings range from courses that are accessible to students with no previous training in science and little mathematical sophistication to courses at the research frontiers addressing topics of current importance to the research physicist. Laboratories in electronics, optics, energy systems, biophysics, and nuclear spectroscopy provide opportunities for students to become familiar with experimental techniques. Physics majors may choose one of several areas of specialization, which, together with the core curriculum, lead to the bachelor of arts degree. Undergraduate physics majors are encouraged to work closely with the faculty in research projects at the earliest possible stage of their studies. Graduate students can undertake programs leading to the M.A. and Ph.D. degrees. Formal courses (excluding reading courses and special topics) fall into six categories, as described below:

1) *Courses for Nonscientists*

These courses are designed to impart a degree of literacy in the physical sciences, acquaint students with the nature of scientific inquiry, and help students understand the impact of science in the contemporary world. The courses are suitable for students with little mathematical background and require limited use of high school level geometry and algebra. Included are Astronomy 1 and 2 and Physics 100, 101, 102, 103, and 104. These courses have no prerequisites and may be taken by students as part of the Introductory Program.

2) *Introductory Courses for Science Students*

Prospective science majors are encouraged to study some physics in their freshman or sophomore years because all contemporary sciences rely heavily on basic physical principles. The first course, Physics 110, is offered each semester and is a prerequisite for all higher level courses. This course, followed by Physics 111 and a laboratory course or by the sequence

Physics 112, 113, 123, gives adequate preparation to students requiring a comprehensive overview of physics. Students are encouraged to consult with the departmental undergraduate adviser before registration each semester.

3) *Laboratory Courses*

Laboratory experience is provided at both the introductory and advanced levels. To provide the introductory student with a variety of choices, the department offers four laboratories having no prerequisites other than Physics 110, Introductory Physics, which is frequently taken concurrently. These laboratories, Physics 118, 119, 128, and 132, acquaint students with techniques, theory, and applications in optics, electronics, biophysics, and energy studies, respectively. More advanced experience is available in the nuclear spectroscopy and instrumentation laboratories, Physics 129 and 229, or through special projects or honors courses.

4) *Advanced Undergraduate Courses*

Intermediate courses include Mechanics of Solids and Liquids, Electricity and Magnetism, Atomic and Nuclear Physics, and Introduction to the Solid State. More advanced 200-level courses are also available to students with adequate preparation, and students expecting to enter graduate studies in physics are particularly encouraged to enroll in Physics 201, 202, or 205. Entry into most intermediate or advanced courses requires prior completion of the Physics Core Curriculum.

5) *Basic Graduate Courses*

These courses form the background for research in all areas of physics and are required for doctoral candidates. The basic graduate courses are Physics 301, 302, 303, 305, 309, and 310.

6) *Specialized Graduate Courses*

These courses extend the basic graduate courses to the research frontier and are numbered 311 or higher. Students specializing in particular areas may choose those courses relevant to their interests. The courses are given as student demand warrants.

The Undergraduate Major

Undergraduate physics majors may choose from any one of five program areas of study: (1) general physics, (2) experimental physics, (3) mathematical physics, (4) biophysics, and (5) technology assessment. Each program consists of a common core curriculum, normally to be completed by the end of the sophomore year, and an area curriculum which defines each student's specialization. The area curriculum is designed to give students depth in their field of specialization and also to give a perspective on the relation of physics to other fields of knowledge.

I. *Core Curriculum*

This curriculum consists of a two-year survey of classical, quantum, and statistical physics with the associated laboratories and two years of mathematics. Physics majors normally are expected to complete this curriculum in their sophomore year. The core curriculum consists of the following courses:

	Units
1) Introductory level courses, Physics 110 and either 111 or 112	2
2) Second level courses, Physics 113 and 123	2
3) Laboratory courses, Physics 119 and 129	2
4) Calculus, two years through Mathematics 131	4
Total	10

Students with a strong background in physics and mathematics may replace any required courses with appropriate more advanced courses, approved by the departmental undergraduate adviser. Students with advanced placement credit do not receive credit for courses skipped, but may count them toward their major requirements.

II. *Area Curricula*

Majors must choose from one of the five program areas prior to the beginning of their senior year. The rationale and requirements of the five area programs are as follows:

1) *General Physics:* This program is designed for the student who wishes to major in physics as part of a general liberal arts education and who does not wish to do graduate study or research in physics or the other basic sciences. The program provides maximum freedom of choice and is an excellent preparation for professional schools, business, and elementary teaching.

Required:	Units
a. Physics Core	10
b. Physics 162 or 164 and 174 or 176; or alternatively two courses from the sequence Science, Technology and Society 130, Physics 131 and 132	2
c. Mathematics beyond Mathematics 131	2
d. Chemistry	2
e. Related areas: six courses in computer science; science education; history of science; philosophy of science; science, technology and society; or other areas approved by the undergraduate physics adviser	6
Total	22

2) *Experimental Physics:* This program is designed for students who may wish to pursue graduate study in physics or a closely related area. A principal feature of the program is the requirement of a two-semester experimental research project.

Required:	Units
a. Physics Core	10
b. Physics 162 or 164 and Physics 174 or 176	2
c. Experimental research project, Physics 231	2
d. Mathematics beyond Mathematics 131	2
e. Chemistry	2
f. Related areas: four courses in computer science; history of science; philosophy of science; biology; science, technology and society; or other areas approved by the undergraduate adviser	4
Total	22

3) *Mathematical Physics.* This program is designed for students who wish to pursue graduate study in physics or a related area. A principal feature of the program is the requirement of considerable course work in mathematics and logic.

Required:	Units
a. Physics Core	10
b. Physics 162 or 164 and Physics 174 or 176	2
c. Physics 205 or Physics 201 and 202	2
d. Mathematics beyond Mathematics 131 involving algebra, complex variables, differential equations, and modern analysis, or applied mathematics)	4

e. Philosophy of science and logic	2
f. Related areas: chemistry; computer science; biology; science, technology and society; or other areas approved by the undergraduate adviser	2
Total	22

4) *Biophysics:* This program is intended for students who wish to obtain a strong background in the physical sciences as preparation for medical school or graduate-level work in the life sciences.

Required:	Units
a. Physics Core	10
b. Physics 162, 164, 174, or 176	1
c. Topics in Biophysics, Physics 240	1
d. Chemistry: inorganic, organic, and physical	5
e. Biology	4
f. Biochemistry	1
Total	22

5) *Technology Assessment:* This program is designed to provide students with a sound basis for conducting physical, economic, and value assessments of selected technological systems. The goals of the major are similar to the major in science, technology and society, but feature more extensive work in physical science.

Required:	Units
a. Physics Core	10
b. Physics 162 or 164 and 174 or 176; or alternatively two courses from the sequence Science, Technology and Society 130, Physics 131, and Physics 132	2
c. Mathematics beyond Mathematics 131	1
d. Related science: chemistry or biology	2
e. Science, technology, and society	3
f. Related areas: economics, geography, government, philosophy, or other courses approved by the undergraduate adviser	4
Total	22

Undergraduate Honors

A qualified undergraduate in any of the major options is encouraged to participate in the physics honors program. During the junior and senior years, honors students conduct an experimental or theoretical research project under the guidance of a faculty member. This work is submitted to the department as an honors thesis. Recommendation for a degree with honors in physics is determined by the quality of each thesis and the performance of students in an oral defense of their thesis. An honors candidate must maintain an average of B- in physics, chemistry, and mathematics courses. Students may gain credit for honors work by registering for Physics 231, 232, or 233.

Additional information on the research interests of the faculty, research facilities, titles of recent undergraduate research projects, and the present activities of recent Clark physics graduates is given in a brochure entitled "The Undergraduate Program in Physics at Clark University," which is available from the department chairman.

Graduate Program

The Department of Physics offers the master of arts and doctor of philosophy degrees in physics, and jointly with the Department of Chemistry, a Ph.D. in chemical physics. Departmental research is concentrated in the experimental and theoretical study of condensed matter, with an emphasis on phase transitions. Other research areas represented in the department are radiation damage studies, technology assessment, applied physics, and biophysics.

The academic aspects of the graduate programs in physics are flexible and innovative in nature, with an emphasis on close student-faculty contact, informal student evaluation, and early participation in research.

Beginning graduate students are required to take a placement examination, which tests their knowledge of undergraduate physics. A student failing this examination may be required to take a remedial program before entering fully into the graduate program and may be asked to fulfill the requirements of the M.A. before proceeding to the Ph.D.

To receive the M.A. degree, students must satisfy the general University residence and course requirements, pass with a grade of B- or better four units of the basic graduate courses—Physics 301, 302, 305, 309, and 310—one unit of Physics 303, and pass two oral examinations in the subject matter of the basic graduate courses. In contrast to many M.A. physics programs at other universities, students must also complete a thesis based on original research.

To receive the Ph.D., students must, in addition to the University residence and course requirements, pass with a grade of B or better, the basic graduate courses Physics 301, 302, 305, 309, and 310 and two units of Physics 303. To qualify for Ph.D. research, students must pass four oral examinations in the subject matter of the basic graduate courses. Students must also pass at least one graduate course in a subject other than physics, demonstrate literacy in a foreign language and computer programming, and complete a dissertation based on original research. Students entering with advanced standing and transferable credit are encouraged to demonstrate their proficiency in core graduation courses through examination.

Graduate students in both the M.A. and Ph.D. programs are required to obtain supervised teaching experience either as teaching assistants or teaching fellows in the department or elsewhere, if approved by the department.

Those interested in further information on the research interests of the faculty and research opportunities for graduate students in the department should request the brochure "The Graduate Program and Research in Physics at Clark." Additional information on graduate requirements and their timing is available in the "Physics Graduate Student Handbook." Copies of both are available from the department chairman.

Application forms for admission and financial aid may be requested from the department chairman. During the academic year, support is available in the form of tuition remission, teaching assistantships and research assistantships. The department considers the financial support of its graduate students an important responsibility.

COURSES

Two courses in Astronomy are offered by the department:

Astronomy **1** **EXPLORING THE UNIVERSE**

Astronomy **2** **BLACK HOLES AND COSMOLOGY**

Refer to the section on Astronomy for course descriptions.

100 EINSTEIN AND HIS IDEAS

This course introduces students with no special preparation or competence in mathematics and science to the contributions of Einstein to contemporary ideas in physics. Much of the course will be devoted to a systematic development of Einstein's special theory of relativity and its profound implications for our conception of space and time. The remainder of the course will introduce Einstein's general theory of relativity in which the effects of gravity are described in terms of the curvature of space, the contribution of the general theory to our understanding of the nature of the universe, Einstein's role in the development of quantum mechanics, and his involvement in political and humanitarian causes. Throughout the course we will seek to gain insight into Einstein as a person and into the nature of the creative process. This course satisfies the Formal Analysis requirement in the Introductory Program.
Mr. Gould

101 PARTICLE PHYSICS

A fundamental problem in physics during the past 40 years has been to combine the ideas of relativity and quantum mechanics to give a satisfying picture of the nature of matter. The problem has not been solved; however, much progress has been made. Experiments have identified a surprising number of new kinds of properties of particles, and recent theories have clarified the relationship between these particles. The course will present some of the key developments in a form accessible to students with limited scientific and mathematical backgrounds. The following topics will be treated: introduction to quantum mechanics and special relativity, classification of presently known particles and their interaction, description of some current experiments and their results. An integral part of the course will be a series of laboratory experiments on the important properties of elementary particles. This course satisfies the Scientific Perspectives requirement in the Introductory Program. Prerequisite: permission of instructor.
Mr. Collins, Mr. Goble

102 THE PHYSICS OF EVERDAY EXPERIENCE

This is an introduction to the basic physical concepts necessary for a fundamental understanding of our everyday observations of the physical world and the nature of discovering, reasoning, and concept-formation in the physical sciences. Topics will include the physics of hearing and seeing, matter in motion, heat, electricity and magnetism, the nature of matter, and a study of man's place in the physical universe. The course is directed towards the nonscientifically-oriented student. There are three lectures per week plus an open, informal laboratory.
Mr. Andersen

103 IDEAS OF QUANTUM PHYSICS

This course introduces students to the conceptual foundations of the quantum theory of matter. It will discuss the experimental evidence for the

failure of classical theory, the properties of electrons and photons, wave particle duality, the Heisenberg uncertainty principle and the theory of measurements, the statistical interpretation of quantum mechanics, the complementarity principle, and the meaning of determinism and causality in quantum physics. Particular attention will be given to various paradoxes in the interpretation of quantum mechanics and the fundamental objections raised by Einstein and others in its interpretation. The development of the theory is qualitative and will utilize only elementary algebra to simplify and clarify the presentation. The course is open to all students including those wishing to satisfy the scientific perspective requirement. Three meetings plus one discussion per week. This course satisfies the Scientific Perspective requirement in the Introductory Program.
Mr. Kohin

104 THE NATURE OF PHYSICAL SCIENCE

It is the purpose of this course to examine two fundamental and important questions: "What is natural science?" and "How do natural scientists look at the world?" Students will seek answers to these questions by means of a case study involving the Copernican revolution in astronomy. Although an important part of this course will involve a historical study of the approaches to the problems faced by science as it emerged from the dark ages, sufficient time also will be spent on the scientific discoveries themselves to enable students to appreciate the complexity of the questions scientists must consider in evaluating and explaining observational data. This course is open to all students and has no prerequisites.
Mr. Andersen

110 INTRODUCTORY PHYSICS—PART I

This is a problem oriented course for science majors and for the general student desiring a rigorous survey of physics. The course stresses the simplicity and self-consistency of physical models and mathematical laws in explaining a variety of phenomena. Topics first semester include Newtonian and relativistic mechanics and an introduction to statistical and thermal properties of matter. Calculus is not required for students in this course although some of the elements will be developed during the semester. The course may be followed by either Physics 111 or 112 depending on the particular goals of the student. Together with Physics 111 and a laboratory course it fulfills the normal entrance requirements for medical and dental schools and may be used to satisfy major requirements for chemistry; biology; and science, technology and society majors. This course satisfies the Formal Analysis requirement in the Introductory Program and is a prerequisite for more advanced courses. There are three lectures and one discussion section each week. It is offered in each semester; in the fall two sections of the course are offered, with one restricted to freshmen and sophomores.
Mr. Landee, Mr. Magnante

111 INTRODUCTORY PHYSICS—PART 2

This course is a continuation of Physics 110 and includes electricity and magnetism, optics, atomic and nuclear physics. Students who do not intend to take a second year of physics should enroll in this course in preference to Physics 112. It is offered each semester and has three lectures and one discussion section each week.
Mr. Andersen, Mr. Landee

112 CLASSICAL PHYSICS

This course is a continuation of Physics 110 for students desiring a more mathematically complete introduction to physics. It explores topics at a greater depth and at a more advanced level than Physics 111. Topics covered are electricity, magnetism, wave motion, and optics. This course is followed by Quantum Physics, Physics 113, and students expecting to obtain an introduction to all areas of physics should continue with this sequence. There are two lectures and two tutorial sessions per week. Corequisite: Mathematics 121. Credit for both Physics 111 and 112 is not given. Offered only in the spring semester.
Mr. Davies

113 QUANTUM PHYSICS

This is a third semester introductory course in physics to follow either Physics 111 or 112. This course introduces the concepts of quantum physics with applications to the microscopic world. The philosophical implications of the theory are discussed. This course is appropriate for biology; philosophy; and science, technology and society majors as well as for physics and chemistry majors. Prerequisite: Physics 111 or 112 and Mathematics 121 or permission of the instructor.
Mr. Magnante

118 OPTICAL PROJECTS LABORATORY

This is an introductory laboratory covering the principles, applications, and techniques of modern optics. Projects will treat imaging and photographic techniques, basic optical instruments including the microscope, lasers and holograms, optical communication using fiber optics, and light interactions with matter. This course is of interest to biology, geography, premedical/predental, and psychology majors, as well as to physics and chemistry majors. The course satisfies the laboratory requirement for biology; chemistry; science, technology and society; and premedical/predental students. There are two tutorial sessions and one laboratory per week. Prerequisite: Physics 110.
Mr. Kohin

119 ELECTRONICS LABORATORY

This is an introductory laboratory course in electronics, the goal of which is to build and understand several simple circuits using discrete and integrated solid state elements. The course will begin with the fundamentals of DC and AC circuit theory and the use of basic test instruments such as the oscilloscope. Special emphasis will be given to operational amplifier techniques. This course satisfies the laboratory requirement for biology; chemistry; science, technology and society; and premedical/predental students. There are two lectures and one laboratory per week. No prerequisites other than algebra.
Mr. Collins

123 STATISTICAL AND THERMAL PHYSICS

This is an introduction to the concepts of statistical and thermal physics including statistical mechanics, thermodynamics, and kinetic theory. The course includes an introduction to the laws of thermodynamics and their basis in atomic theory. Much of the course will be practical in nature and stress application in such areas as energy-related problems. The course should be appropriate for majors in science, technology and society;

biology; physics; mathematics; and chemistry, as well as students in other areas who have an appropriate mathematics background. Prerequisite: Physics 111 or 112; corequisite: Mathematics 131.
Mr. Davies

128 BIOLOGICAL PHYSICS LABORATORY

This is a laboratory course designed to introduce students in biology or in the premedical/predental program to the physical principles underlying biological systems. Students will become familiar with the instrumentation, analysis, and reporting of experiments on a range of biological phenomena. Experiments will utilize mechanical, thermal, electronic, optical, and nuclear techniques. The computer will be used to analyze data. The course satisfies the physics laboratory requirement for biology; chemistry; science, technology and society; and premedical/predental students. There are one lecture and one laboratory per week. Prerequisite: Physics 111 or 112.
Mr. Andersen

129 NUCLEAR SPECTROSCOPY LABORATORY

This is an introduction to modern physical research instrumentation for students who have completed Physics 119. Emphasis is on measurement of the properties of the fundamental particles including protons, neutrons, electrons, and positrons as well as gamma ray photons. Departmental facilities such as the machine shop and electronics stockroom are available. There is one tutorial and two laboratory sessions per week. Prerequisites: Physics 119 and 113.
Mr. Collins

131 SOLAR ENERGY

Refer to course description under Science, Technology and Society 131.
Staff

132 ALTERNATIVE ENERGY SYSTEMS LABORATORY

Refer to course description under Science, Technology and Society 132.
Staff

150 SEMINAR: PHYSICS AS NATURAL PHILOSOPHY

A seminar on important concepts and implications of physics. The course is for students with a serious interest in physics as a liberal art. Topics will vary depending on faculty and student interest and might include areas such as symmetry, invariance and conservation laws, entropy and the arrow of time, nature of scientific theory, problems in the history of physics, and science and culture. Prerequisite: either Physics 100, 101, 102, or 103 *or* the equivalent. Offered on demand.
Mr. Gould

162 MECHANICS OF SOLIDS AND LIQUIDS

This is an intermediate level course intended for physical science majors. It will develop the concepts of particle dynamics and emphasize applications of these principles to macrosopic systems. Topics will include relative motion and the Coriolis force, elasticity, flow in ideal and viscous fluids, and the onset of turbulence. Prerequisites: Mathematics 131 and Physics 111 or 112. Offered in alternate years.
Mr. Kohin

164 ELECTRICITY AND MAGNETISM

This is an intermediate level course dealing with the electromagnetic field. This course develops the phenomenology and theories leading to the formulation of Maxwell's equations. Scalar and vector potential theory, the elements of radiation dynamics, and relativistic covariance are discussed. Prerequisites: Physics 112 and Mathematics 131. Offered in alternate years.
Mr. Kohin

174 ATOMIC AND NUCLEAR PHYSICS

This is an intermediate level course introducing elementary quantum mechanics and emphasizing the applications of the theory to atomic, nuclear, molecular, and particle physics. Prerequisites: Physics 113 and Mathematics 131. Offered in alternate years.
Mr. Magnante

176 INTRODUCTION TO THE SOLID STATE

This course applies the concepts of classical, quantum, and statistical physics to explain the properties of solids. The structure of solids and their electrical, magnetic, optical, thermal, and elastic properties will be treated. Prerequisites: Completion of all courses in the Physics Core Curriculum. Offered in alternate years.
Staff

188 INDEPENDENT PROJECTS

This is an independent study on topics in experimental or theoretical physics directed by a faculty sponsor. Offered for variable credit.
Staff

201 CLASSICAL DYNAMICS

This is a course designed to prepare the physics major for graduate work in physics. Topics covered include Hamilton's principle, classical scattering theory, rigid body motion, canonical transformations, Hamilton-Jacobi theory, and mathematical methods of physics. The lectures are the same as in Physics 301, but evaluation is separate. Prerequisite: Physics 162 and 174.
Mr. Davies

202 CLASSICAL ELECTRODYNAMICS

This is a course designed to prepare the physics major for graduate work in physics. Topics covered include boundary value problems in electrostatics and magnetostatics, the electromagnetic field equations and special relativity, electromagnetic waves, radiation theory, multipole fields, and mathematical methods in physics. The lectures are the same as Physics 302, but evaluation is separate. Prerequisite: Physics 164.
Mr. Bluemel

205 QUANTUM MECHANICS

This is a course designed to prepare the physics major for graduate work in physics. The mathematical framework of quantum mechanics is covered. The lectures are the same as in Physics 305, but evaluation is separate. Prerequisites: Physics 174 and Mathematics 131. A full year course.
Mr. O'Neill

209 STATISTICAL MECHANICS

This is a course designed to prepare the physics major for graduate work in physics. Lectures are the same as in Physics 309, but evaluation is separate. Prerequisites: Physics 174 and 123.
Mr. Gould

229 PHYSICAL INSTRUMENTATION LABORATORY

This is an introduction to modern physical research instrumentation. The course deals with the advanced interpretation of physical measurements in modern physics and is the same as Physics 129, except that interpretation of experiments is at the advanced undergraduate or beginning graduate level. Undergraduates who have completed 129 may register for 229.
Mr. Collins

230 DIRECTED READINGS IN PHYSICS

These directed readings in physics will provide for special needs not covered in regular courses. Offered for variable credit.
Staff

231 SPECIAL PROJECTS IN EXPERIMENTAL PHYSICS

These are independent laboratory projects done under the guidance of a faculty adviser. Offered for variable credit.
Staff

232 SPECIAL PROJECTS IN THEORETICAL PHYSICS

These are independent projects in theoretical physics done under the guidance of a faculty member. Offered for variable credit.
Staff

233 SPECIAL PROJECTS IN APPLIED PHYSICS

These independent projects in applied physics are done under the guidance of a faculty adviser. Offered for variable credit.
Staff

240 TOPICS IN BIOPHYSICS

This is a course specifically designed for the senior physics major in the biophysics area program. The principles of biology, chemistry, and physics are applied to a variety of biological phenomena.
Mr. Andersen

301 CLASSICAL DYNAMICS

This is a graduate-level course in classical mechanics. The topics covered are similar to Physics 201 but are treated in greater depth.
Mr. Davies

302 CLASSICAL ELECTRODYNAMICS

This is a graduate-level course in classical electromagnetic theory. The topics covered are similar to Physics 202 but are treated in greater depth.
Mr. Bluemel

303 RESEARCH APPRENTICESHIP

An apprentice will have direct participation in the experimental and

theoretical research groups of the department. The student spends 7 to 14 weeks working in a variety of research groups. Ph.D. students should enroll in the course for two semesters; M.A. students for one semester.
Staff

305 QUANTUM MECHANICS
This is a comprehensive course in quantum mechanics. Topics include the Schrödinger equation and the general structure of wave mechanics, symmetries and angular momentum, potential scattering, perturbation theory, interaction of radiation with matter, spin, second quantization, and an introduction to relativistic quantum mechanics. A full year course.
Mr. O'Neill

309 STATISTICAL MECHANICS
This is a comprehensive course in statistical mechanics and kinetic theory. Topics treated include ensembles, principles of thermodynamics, classical equations of state for interacting classical fluids, Mayer cluster expansion, classical lattice models, the Fermi distribution and the ideal degenerate electron gas, the Bose distribution, the Debye theory of solids and the Bose-Einstein condensation, mean field theory of continuous phase transitions, and the Boltzmann equation.
Mr. Gould

310 SOLID STATE PHYSICS
This is an introduction to the quantum theory of solids. Topics covered include free electron theory of metals, crystal and reciprocal lattices, band structure and the Fermi surface, lattice dynamics, insulators, and semiconductors. Prerequisites: Physics 305 and 309.
Mr. Hohenemser

311 ADVANCED QUANTUM MECHANICS
This course includes relativistic quantum mechanics, quantum electrodynamics, and the many-body problem. Prerequisite: Physics 305 or equivalent.
Mr. Davies

312 APPLICATIONS OF GROUP THEORY TO PHYSICS
This is a representation theory for finite groups. Applications to crystallographic point groups. Representations of continuous impact groups: the rotation group. The Wigner-Eckart theorem and selection rules. The permutation group and its application to the system of identical particles. Classification of states of a multi-electron atom.
Mr. Kohin

314 THEORY OF MANY-PARTICLE SYSTEMS
The equilibrium and linear response properties of many-body systems are studied at zero and nonzero temperatures using memory function techniques and thermodynamic Green's functions. Applications are made to degenerate Fermi liquids, superfluid ^{4}He, and superconductivity.
Mr. Gould

315 CRITICAL PHENOMENA
This is a review of recent experimental results in magnetic, liquid-gas, and structural phase transitions. General behavior of continuous phase

transitions, critical indices, scaling laws, and universality. Ginzburg-Landau-Wilson model, mean field approximation, renormalization group, perturbation expansions, real-space calculations, dynamic behavior, application of renormalization group to other problems are studied.
Mr. Gould, Mr. Hohenemser

317 SOLID STATE SPECTROSCOPY
This is a theoretical and experimental review of the physics of solids observed using spectroscopic methods.
Staff

325 RESEARCH SEMINAR
This is a student participation seminar in current research problems. Offered for variable credit.
Staff

330 TOPICS IN EXPERIMENTAL PHYSICS
A specific topic in experimental physics is considered at the research level. Topics are selected on the basis of current interest. Offered for variable credit.
Staff

335 TOPICS IN THEORETICAL PHYSICS
A specific topic in theoretical physics is considered at the research level. Topics are selected on the basis of current interest. Offered for variable credit.
Staff

340 COLLOQUIUM
Weekly invited lecturers speak on research topics of current interest. Required for all graduate students. Not offered for credit.
Staff

350 RESEARCH
Thesis and dissertation preparation. Offered for variable credit.
Staff

Psychology

DEPARTMENT FACULTY

Seymour Wapner, Ph.D., G. Stanley Hall Professor of Genetic Psychology, Department Chair
Mortimer H. Appley, Ph.D., Professor of Psychology, President of the University
Robert W. Baker, Ph.D., Professor of Psychology
Roger Bibace, Ph.D., Professor of Psychology
Tamara Dembo, Ph.D., Professor of Psychology, Emeritus
Joseph H. deRivera, Ph.D., Professor of Psychology
Bernard Kaplan, Ph.D., Professor of Psychology
Donald G. Stein, Ph.D., Professor of Psychology
David A. Stevens, Ph.D., Professor of Psychology
Ina C. Uzgiris, Ph.D., Professor of Psychology

Morton Wiener, Ph.D., Professor of Psychology
Leonard E. Cirillo, Ph.D., Associate Professor of Psychology
William Damon, Ph.D., Associate Professor of Psychology
Rachel Joffe Falmagne, Ph.D., Associate Professor of Psychology
James D. Laird, Ph.D., Associate Professor of Psychology
Nicholas S. Thompson, Ph.D., Associate Professor of Psychology and Ethology
Barbara M. Burns, Ph.D., Assistant Professor of Psychology
Roy D. Pea, D.Phil., Assistant Professor of Psychology
Joseph Schmuller, Ph.D., Assistant Professor of Psychology

ADJUNCT FACULTY
Edward E. Sampson, Ph.D., Professor of Sociology and Adjunct Professor of Psychology
David Zern, Ph.D., Associate Professor of Education and Adjunct Associate Professor of Psychology

AFFILIATED STAFF
D. Frank Benson, M.D., Professor of Psychology, Affiliate
Donald M. Broverman, Ph.D., Professor of Psychology, Affiliate
Nelson M. Butters, Ph.D., Professor of Psychology, Affiliate
R.J.O. Catlin, M.B., L.R.C.G.P., Professor of Psychology, Affiliate
Harold Goodglass, Ph.D., Professor of Psychology, Affiliate
Davis H. Howes, Ph.D., Professor of Psychology, Affiliate
Edith F. Kaplan, Ph.D., Professor of Psychology, Affiliate
Allan F. Mirsky, Ph.D., Professor of Psychology, Affiliate
William Vogel, Ph.D., Professor of Psychology, Affiliate
Martin Albert, Ph.D., Associate Professor of Psychology, Affiliate
Robert A. Ciottone, Ph.D., Associate Professor of Psychology, Affiliate
Howard E. Gardner, Ph.D., Associate Professor of Psychology, Affiliate
Robert O'Connell, Ph.D., Associate Professor of Psychology, Affiliate
Marlene Oscar-Berman, Ph.D., Associate Professor of Psychology, Affiliate
Edgar B. Zurif, Ph.D., Associate Professor of Psychology, Affiliate
Marilyn S. Albert, Ph.D., Assistant Professor of Psychology, Affiliate
Michael P. Alexander, M.D., Assistant Professor of Psychology, Affiliate
David Bear, M.D., Assistant Professor of Psychology, Affiliate
Carolyn Cotsonas, J.D., Assistant Professor of Psychology, Affiliate
David Finkel, Ph.D., Assistant Professor of Psychology, Affiliate
Jane Holmes, Ph.D., Assistant Professor of Psychology, Affiliate
Deborah S. Kellett, Ph.D., Assistant Professor of Psychology, Affiliate
Lise Menn, Ph.D., Assistant Professor of Psychology, Affiliate
Margaret Naeser, Ph.D., Assistant Professor of Psychology, Affiliate
Loraine Obler, Ph.D., Assistant Professor of Psychology, Affiliate
Lawrence Peterson, Ph.D., Assistant Professor of Psychology, Affiliate
Ogretta V. McNeil, Ph.D., Fellow, Heinz Werner Institute
Angel Pacheco, Ph.D., Fellow, Heinz Werner Institute
Elizabeth Weiss Lang, Ph.D., Research Associate
Robert B. Shilkret, Ph.D., Research Associate
Mary Walsh, Ph.D., Clinical and Research Associate

UNDERGRADUATE PROGRAM

The department has emphasized, in undergraduate courses and research, the same respect for scholarship as it has at the graduate level. The aims of the undergraduate program are: to promote respect for intellectual activity, to encourage an attitude of intelligent inquiry, and to highlight the implications of psychological knowledge for an understanding of everyday phenomena. The department offers educational experiences that will enhance the students' liberal arts background and prepare them for graduate work in psychology or related disciplines.

Course Numbers: The undergraduate course numbering system has been reorganized and simplified. Ranges of course numbers now have specific meanings according to the following key:

Range	*Meaning*
100–109	Courses all majors must take (General, Quantitative Methods)
110–149	Survey courses; psychology as a life science
150–189	Survey courses; psychology as a social science
190–199	Special freshman and sophomore courses
200–214	Laboratory courses
215–229	Research courses
230–234	More advanced courses; psychology as a life science
235–239	More advanced courses; psychology as a social science
240–259	Primarily junior and senior specialized seminars (may not be taken for graduate credit without special permission)
260–289	Primarily junior, senior, and graduate specialized seminars (may be taken for graduate credit without special permission)
290–299	Special courses (honors, directed readings, research)

Unless otherwise stated, Psychology 101 is a prerequisite to all other Psychology courses.

Major Requirements. The major in psychology consists of psychology and related course requirements. The psychology requirements are designed to insure exposure to one of the most basic distinctions in contemporary psychology, that of psychology approached as a life or a social science: to insure some familiarity with experimental and observational methods (laboratory and praticum requirement), to provide background in essential quantitative skills (statistics requirement—Psychology 105), and to guarantee several contacts with faculty in advanced, small-enrollment seminars.

The related requirement of two minors reflects the conviction of the department that all academic areas are actually or potentially related to psychology, but also that scholarship involves, at some point, studying subject matter in considerable depth.

1. *Psychology Courses*
   Total of at least eight full-course equivalents, including:
   a. 101, General Psychology
   b. 105, Quantitative Methods
   c. One full-course equivalent from range 110–149 or 230–234 (Survey courses: psychology as a life science)
   d. One full-course equivalent from range 150–189 or 235-239 (Survey courses: psychology as a social science)
   e. Two full-course equivalents from range 200–229 (laboratory and research courses)
   f. Two full-course equivalents from range 240–289 (upper level seminars)
2. *Related Courses*
   Related courses are defined in terms of minors. A minor consists of at least four full-course equivalents in a single area or department. Two minors must be chosen from the following areas or departments:

Biology
Chemistry
Engineering, Applied Math, or Computer Science
Economics
Education
English
Foreign Languages and Literatures (includes Linguistics)
Geography
Government and International Relations
History
Mathematics
Philosophy
Physics
Science, Technology and Society
Sociology
Visual and Performing Arts

There are two restrictions on permissible course sequences within an area or department:

a. In the case where a department offers more than one introductory course, only the course or courses designed to prepare students for further work in the area may be taken for related credit. In most departments, this excludes introductory courses designed for nonmajors. Detailed information about this restriction may be obtained from the Department of Psychology.
b. The courses must form a coherent sequence or program within the context of the department in which a minor is taken. In most cases, this will be self-evident. However, in doubtful cases, the student must consult his or her psychology adviser and the department concerned.

The Honors Program. Honors work in psychology is available to seniors who have demonstrated high scholastic achievement and the ability to work independently in scholarly situations. Students may seek admission to the honors program by requesting the faculty member, under whose direction students intend to do research work, to submit their name to the full faculty for consideration. Students in the honors program carry out an independent empirical research project under the sponsorship of one or more faculty members. This research provides basis for a thesis, which, upon completion, is presented and defended by the students before an Examining Committee of faculty members. On the basis of the report of the Examining Committee and the students' advisers for the project, the department may recommend to the College Board that the students be awarded departmental honors at one of the following levels: highest honors, high honors, or honors in psychology.

DOCTORAL PROGRAM

General Requirements. The department admits to graduate work only those students who plan to enroll in the Ph.D. program on a full-time basis. The overall aim of the graduate program is to provide students with a general integrated background covering the various areas of psychology. Within these emphases there are several specialized programs available.

The lack of rigid boundaries between specialty areas and the lack of carefully specified curriculum sequences require, in students, a continuous process of self-definition regarding the form of their graduate training. An adviser is appointed for each student, and it is expected that student and adviser will regularly review the student's progress and plans. However, our experience clearly indicates that there are persons who have difficulty tolerating the ambiguities in this kind of situation, and applicants are urged to assess themselves carefully in relation to the personal demands of such a setting. While several different traditions and points of view toward the study of psychology are represented in our department, including the behaviorist-learning orientation that is characteristic of many American universities, there is a basic emphasis at Clark on the organismic-developmental approach (e.g., Heinz Werner, Jean Piaget). This emphasis does not in any way prevent the free and open expression or espousal of other points of view, but it does provide a distinctive theoretical coloring that is somewhat unusual in American psychology. In all the department's programs, including clinical and rehabilitation psychology, there is a primary concern with theory, conceptual analysis, and research. Participation in research is strongly encouraged all through the graduate experience, and the nature of the research is determined primarily by a common interest of each student with that of a faculty member. The student is expected to contribute significantly to the conceptualization, design, execution, analysis, and writing-up of the work.

Course work. Students ordinarily are expected to take four courses in each semester for their first two years, including in their first year Problem, Theory, and Method in Psychology (301) and Statistical Methods (302). In subsequent years, students continue to enroll in a full program which ordinarily includes two or three content courses, research and reading courses, etc. A total of at least 18 one-semester courses are required for admission to candidacy for the Ph.D., of which at least two must be from among a group including personality, social, developmental, phenomenological, and cognition, and at least two must be from among the group including physiological psychology, learning, perception, and animal behavior.

To provide a basis for evaluation of students' progress early in their careers, all students are required to write two papers (or equivalent) during each of their first four semesters, except that they need not write such papers during the semester in which they complete their M.A. thesis. Papers may be required by instructors in all or none of a student's courses. In the latter case, the student is required to submit papers in a minimum of two courses. Early in the semester, before writing the paper, the student should discuss the proposed content with the instructor. In some cases, the instructor may substitute some other "evaluatable performance" (e.g., an examination) for a paper. Note that it is the student's responsibility to ensure that the instructors in at least two of his/her courses understand that she/he intends to submit these papers to them. It is the instructor's responsibility to define what constitutes an adequate fulfillment of this requirement. The student is also responsible for informing the department office, before the end of the semester, what papers will be submitted and which instructor will evaluate those papers. If students have any questions they should consult the instructor or their general adviser.

Teaching apprenticeship program. All students are expected to become involved in teaching as apprentices. Since many students ultimately become college and university teachers, acquaintance with the demands and techniques of teaching over a range of courses is considered an important part of their graduate training. Ordinarily, a student might spend an average of 10 hours a week in an apprenticeship.

Qualifying examination in quantitative methods. All students are required to demonstrate competence in quantitative methods by satisfactory performance on a qualifying examination in that area. The examination is normally taken at the end of the student's first year, at the completion of the course in quantitative methods.

M.A. degree. The M.A. degree is awarded after satisfactory completion of at least eight one-semester courses or their equivalent, the departmental paper requirement, an M.A. thesis based on the collection and analysis of data, and an oral examination on the thesis. The requirements for the M.A. degree are to be completed within the first two years of graduate work and students who have not completed their M.A. degree by that time will not be permitted to enroll for the third year. A student not completing the M.A. by the end of the third year ordinarily will not be permitted to go on for the Ph.D., but will be given ample opportunity to complete the M.A. degree.

Major paper and oral examination. This paper is expected to demonstrate the student's mastery of the research and theory of his/her area of specialization. An oral examination of this material will also be held shortly after the paper has been submitted. The major paper is normally to be done within one year of completing the M.A. The student takes Directed Readings with a faculty member during the second semester of that year. If the paper is not finished on time, the faculty selects some of its members to help the student formulate a plan to finish it during the summer. If a student has still not completed the paper, she/he is not permitted to enroll for the following year so that he/she may complete this requirement.

Admission to Ph.D. candidacy: Satisfactory completion of at least 18 one-semester content courses (including 301 and 302), as well as the above requirements, is necessary for admission to candidacy for the Ph.D. degree. All the requirements for Ph.D. candidacy, including the major paper, must be met within two years of completing the M.A. A student who does not do so ordinarily will be dropped from the Ph.D. program

Ph.D. dissertation: The student demonstrates the ability to conduct independent research (under the supervision of a dissertation committee) by the presentation of an acceptable dissertation.

Ph.D. oral examination: Following submission of the dissertation to the department, a final oral examination is held in which the student presents and defends his/her dissertation and shows competence in a general field of psychology as well as in his/her area of specialization.

These guidelines result in an upper limit of six years for completion of the Ph.D. (excluding an internship year or official leave). An additional year may also be granted by faculty approval of a petition on other grounds such as part-time study because of financial necessity. Those desiring more detail on graduate requirements and their timing should request a copy of "Information on the Graduate Program in Psychology."

Training Program in Clinical Psychology. The Clinical Psychology Training Program, which aims to provide students with competence in Clinical Psychology as an integral part of their scholarly pursuits, requires, in addition to the other usual departmental requirements, the satisfactory completion of the Clinical Methods sequence, participation in the Psychological Services Center, and completion of a year's internship in an agency approved by the department. Proficiency in Clinical Psychology is assessed through periodic review of the students' clinical work; on occasion, special examination may be required.

The goal of the Clinical Training Program is to train clinically competent psychologists who are oriented toward scholarly activity, including empirical inquiry, in whatever settings and with whatever populations they may work. At Clark, clinical students, like all other graduate students, are required to demonstrate mastery of general theoretical principles and methodologies in psychology. Within the clinical program, there are special opportunities for training:

a) child clinical
b) human neuropsychology (in association with the Boston V. A. Aphasia Unit)
c) family interactions (in association with the Department of Family and Community Medicine, University of Massachusetts Medical School)

The Psychological Services Center was established in 1950 to train doctoral candidates in clinical psychology and to offer diagnostic and therapeutic services to the Clark community. Graduate students in the clinical training program participate under close supervision for four years, receiving training in psychological testing, therapy, and diagnostic interviewing. For further information, write to director, Clinical Training Program.

Developmental Psychology Program: This program is designed to prepare students for a career in research, teaching, and scholarly activity in developmental psychology. The goals are to impart to students competence in the variety of methods, techniques, and formats of conceptualization involved in the analysis of psychological development. Guided by those general aims, the developmental program provides in-depth training in special content areas, such as child and infant development, perceptual development, language development, moral development, developmental psychopathology, etc. There is a nursery school associated with the University. There also is a recently constructed laboratory which provides facilities for both empirical and clinical research with children. For further information, write to the director of the program, Dr. Bernard Kaplan.

Social Psychology Program: Perhaps the most important feature of the social-personality program at Clark is its emphasis on the description and analysis of social *experience*. While the department is also interested in how persons behave, we have a concern for experience in its own right. We want to know how and what persons feel, think, and value, as well as how they behave. Consequently, those of us who are most directly involved in the program have developed research strategies that tap into the experiences of everyday life. Conventional experimental work in areas such as verbal and nonverbal communication, socialization, attribution processes, self-concepts, and interpersonal relations is going on in the department. Less traditional emphases include the study of phenomenology of social processes and the ethological and genetic approaches to understanding social behavior. Uniting these diverse activities is a common concern with the theoretical and metatheoretical structures that may enable us to understand social phenomena and the philosophical bases for these conceptualizations. For further information, write to the director of the program, Dr. Joseph deRivera.

Experimental Psychology Program: Training is offered in the general areas of perception, cognitive psychology, and animal and human learning, according to a flexible sequence of courses and seminars covering the theoretical foundations, content, and methodology of these areas as well as specialized topics. The typical orientation in teaching and research is an integrative one, preserving and exploring the connections between these traditionally defined areas and other areas of psychology (developmental, ethology, phenomenology, etc.). The emphasis of the program is on the acquisition of both theoretical and empirical skills. Towards this end, specialized seminars are offered in or around the areas of special interest of various faculty members: participation in ongoing research projects is encouraged, as is research generated by students' interests. In teaching and research, the experimental faculty aims at preserving the continuity with both the mainstream of ongoing psychology research and the values and perspective traditional to Clark, which emphasize conceptual sophistication and theoretical relevance and discourage narrow-sightedness. The research areas currently represented in the department include thinking, reasoning, psycholinguistics, human learning and memory, cerebral hemispheric effects and linguistic information processing, animal discrimination, learning and motivation, infant learning and perception, environmental perception and cognition, perceptual and aesthetic development, logical and language development, and verbal and nonverbal communication. For further information write to: Dr. Rachel Joffe Falmagne.

Psychobiology Training Program: The program in psychobiology has two major foci: physiological psychology and animal behavior. Regardless of area, students are encouraged to begin research as soon as possible after acquiring an understanding of the theoretical basis of an area and the implications of the work. Although the training is often intensive, emphasis is on a close working relationship among faculty, graduate students, and undergraduates. There are many opportunities for collaboration on major research projects including studies on: behavioral recovery from brain damage, psychobiology of aging, effects of drugs and hormones on central nervous system development and neuroplasticity. The laboratory facilities are excellent and include a major new installation for neuroanatomical investigation at the University of Massachusetts Medical Center. Through the consortium, and with permission, students may enroll in courses offered at cooperating institutions including University of Massachusetts Medical Center. For more information on training in physiological psychology, write to Dr. Donald G. Stein; for more information on animal behavior, write to Dr. David A. Stevens.

Rehabilitation Research Training: In conjunction with all other areas of specialization, rehabilitation research training is available. This training is designed to prepare students for investigations of psychological problems as they occur in everyday life. Emphasis on the development of novel techniques and concepts is the main feature of the training. An integral part of the training is an apprenticeship-practicum during which the various phases of research in real-life settings are examined under the guidance of a staff member. This training is especially pertinent to those who are interested in social-emotional and value problems of handicapped and nonhandicapped people. For further information, write to Dr. Tamara Dembo.

Interdisciplinary work: The department recognizes the interest of some students to undertake study and research which cuts across disciplines or areas that now exist. Interdisciplinary activity by students is feasible at Clark inasmuch as some members of the psychology faculty are now, or recently have been, engaged in activities with faculty of other departments.

Applicants for graduate study in psychology, who are interested in securing more detailed information concerning the department and its programs, are urged to write to the department for a brochure, "Information on the Graduate Program in Psychology."

Note: Some aspects of the graduate program were being revised when this catalog was being prepared; please contact the Psychology Department for up-to-date information.

POSTDOCTORAL PROGRAM

The Psychology Department and the Heinz Werner Institute also have a postdoctoral program for training in developmental psychology. In addition to individually oriented research and training opportunities, the developmental faculty offers a seminar for postdoctoral students. Interested postdoctorals should apply to Dr. Bernard Kaplan, program director.

THE HEINZ WERNER INSTITUTE OF DEVELOPMENTAL PSYCHOLOGY

Associated with the department is the Heinz Werner Institute of Developmental Psychology, which has three aims: first, to integrate various research programs dealing with developmental problems; second, to bring to Clark University scholars, teachers, and research workers from disciplines for which developmental problems are pertinent such as anthropology, biology, and certain areas of medicine; third, to train research workers on postdoctoral levels in the comparative-developmental approach to behavior. Information regarding postdoctoral work at the Institute may be obtained by writing to Dr. Bernard Kaplan.

COURSES

101 GENERAL PSYCHOLOGY

Introduction to the principles of human behavior. No prerequisite. Unless otherwise noted, this course is a prerequisite to all other psychology offerings.
Mr. Wapner

105 QUANTITATIVE METHODS

Introduction to the theory and methods of statistical inference and the logic of experimental design.
Ms. Joffe Falmagne or Mr. Schmuller

130 PSYCHOLOGY OF LEARNING

Methods and findings in the study of learning are discussed, with emphasis on their relation to theories of learning. Selected controversial issues are examined.
Staff

135 PRINCIPLES OF BEHAVIORAL EVOLUTION

The genetic, ontogenetic, population, and social mechanisms underlying the behavior of selected social species ranging from slime molds to humans. Prerequisite: permission of instructor, Introductory Biology, or Psychology normally required, but open to freshmen with special qualifications by negotiation with instructor. Also listed for credit as Biology 182.
Mr. Thompson

140 SENSATION AND PERCEPTION

This course combines sensory and perceptual topics in psychology to provide a solid background in experimental psychology. The sensory physiology and sensory processes underlying both major and minor senses are covered as well as psychophysical techniques of measurement. Topics in perception include: the perception of form and space, the influence of learning and development on perception, and special perceptual states.
Ms. Burns

150 INTRODUCTION TO CHILD PSYCHOLOGY

The development of intellectual and social functioning in the child will be discussed. Theoretical approaches to conceptualizing change in the developing child will be emphasized: psychoanalytic, Piagetian, and behavioristic approaches will be contrasted.
Staff

162 PSYCHOANALYTIC INTERPRETATION OF BEHAVIOR

Psychoanalytic contribution to the understanding of human behavior and conflicts will be studied. The class is limited to 40 students.
Mr. Bibace

169 THE PSYCHOLOGY OF LOVE AND HATE

This is an examination of how the emotions of love and hate are manifested in infancy, childhood, adult life, and in social-collective phenomena. The course will deal with related emotions such as envy, greed, jealousy, despair, etc. Prerequisite: permission of instructor.
Mr. Kaplan

170 INTRODUCTION TO SOCIAL PSYCHOLOGY

This is an examination of the relationship between the individual and the social system as understood through the theories, methods, findings, and applications of social psychology. See also Sociology 105.
Mr. Sampson

172 PSYCHOLOGY OF PERSONALITY

Consideration of various theoretical approaches, including psychoanalytic, behavioristic, and phenomenological-humanistic theories. Other content may include case illustrations and research in such areas as stress, anxiety, unconscious processes, emotion, and motivation.
Mr. Cirillo or Mr. Laird

184 PHENOMENOLOGICAL PSYCHOLOGY

The description and analysis of experience, particulary emotional experience, will be studied. We search for ways to share our personal experience of the world and to arrive at the essential structures of experience. In this endeavor, we consider behavior as an independent rather than a dependent variable. Therefore, rather than searching for the determinants of behavior, we consider the choices that confront us and attempt to determine the psychological consequences that necessarily follow from any given choice. Prerequisite: Psychology 101.
Mr. deRivera

193 INTERPRETATION OF DREAMS

This is a course dealing with the exposition, application, and critical evaluation of various systems of dream interpretation. Included will be the systems of Freud, Jung, Stekel, Boss (phenomenological), May (existentialist), Erikson, Gestalt therapists (e.g., Perls), and others. Problems of "validity of interpretation" will be discussed, and the relation of dream interpretation to the interpretation of other "products of the imagination" will be examined. This course is accessible to students, freshmen to seniors. There is a limited enrollment. Prerequisite: permission of instructor.
Mr. Kaplan

194 THE PSYCHOLOGY OF PLAY

The psychological significance of play in the life of the individual will be explored. Special emphasis will include symbolic play, the development of play from childhood to adulthood, and the relation between individual and social play. Comparative analyses will consider the function of play in non-human as well as the human species. Psychology 101 is not a prerequisite for this course. The class is limited to 20 freshmen and sophomores.
Mr. Damon

195 BIOLOGICAL DETERMINISM AND BEHAVIOR

Beginning with the deterministic conceptions of its participants, this course will explore some intellectual history and contemporary data concerning the idea that behavior is determined by evolutionary history and physiological necessity. A course in the Humanistic Studies program. Especially designed for freshmen. Limited to 20 students. Primarily offered to students who are *not* taking General Psychology concurrently. Also listed for credit as Biology 181.
Mr. Thompson

196 THE PSYCHOLOGY OF AMERICAN SPORT

The course will focus on two kinds of psychological issues: those related to the participant and those related to the spectator. Participant topics will include the problems of teaching and learning physical skills, with special attention to the relation between our actions and our ideas about our actions; the effects of athletic participation on other physical and mental functioning; and the role of psychological factors in athletic and other performance, including both transient factors such as confidence and "momentum" and relatively enduring factors such as the personality of the performer. Among the topics covered with respect to the spectator are the social and psychological functions of spectator sports for individuals and society and the effects of spectator sports on the audience, with special attention to the effects of athletic violence on audiences. No prerequisites, unlimited.
Mr. Laird

200 LABORATORY IN ETHOLOGY

The members of the class will participate in research projects on the behavioral biology of a variety of species, mostly birds. The members will work in small teams each of which is devoted to the study of a single species. Bird species available for study include bluejays, red wing black birds, song sparrows, towees, robins, barn swallows, orioles, bobolinks, phoebes, crows, cardinals, and others. Non-bird species include wasps, frogs, dairy cattle, etc. The laboratory is conducted at the instructor's farm in New Braintree. Transportation to the farm may be provided at a nominal extra cost. Students must provide their own binoculars and wet weather gear. Enrollment is limited. Admission is by negotiation. Also listed for credit as Biology 219.
Mr. Thompson

201 LABORATORY IN SOCIAL PSYCHOLOGY

General principles of experimental design are learned through the design and performance of original experiments in experimental social psy-

chology. Both group and individual experiments are conducted in any of the usual topic areas of social psychology. The lab is limited to 20 students. Prerequisites: Psychology 170, 105.
Mr. Laird

202 LABORATORY IN CHILD RESEARCH

This is an introduction to methods used in the study of child thought and behavior. Students will conduct research projects involving observational, experimental, and interviewing techniques. Discussions will consider means of data analysis as well as data collection. Prerequisite: Psychology 105. The lab is limited to 16 students.
Staff

203 LABORATORY IN HUMAN COGNITION

Experimental studies will be considered in the area of reasoning and language comprehension, learning, and memory. This course is aimed at familiarizing the students with the methods used in cognitive psychology, the range of problems studied, and the theoretical concepts used to interpret experiments. Skills in experimental design, statistical analysis, reading and summarizing scientific journal articles, and scientific writing will be acquired in the context of conducting two or three closely supervised experimental projects and one more independent project. Prerequisite: Psychology 105.
Ms. Joffe Falmagne, Mr. Schmuller

204 LABORATORY IN LEARNING

The course is designed to familiarize students with research methods and experimental designs used in investigations of theories of learning and learning phenomena, with both human and animal subjects. The lab is limited to 20 students. Prerequisites: Psychology 105, 130.
Mr. Stevens

206 LABORATORY IN PERSONALITY

The issues and problems in psychological research in general and in the personality area in particular are examined, the problems being exemplified in studies developed and performed by the class group and by individuals. Experiments may be in any of the conventional areas of personality research, such areas as perceptual defense, motives and performance, self perception, experimenter influence, and emotions. Prerequisites: Psychology 170 or 172, 105, permission of instructor.
Mr. Laird

207 LABORATORY IN PERCEPTION

This course stresses mastery of experimental skills and scientific writing in the context of the investigation of sensory and perceptual phenomena in a variety of sense modalities. Prerequisites: Psychology 105, 140, permission of instructor.
Ms. Burns

208 LABORATORY IN CHILD PSYCHOLOGY

This is an introduction to research methods employed in the study of child behavior through participation in studies carried out by the class, with particular emphasis on experimental designs currently used in the field. Related theoretical and methodological issues will be discussed with the

aim of placing the experimental study of child behavior within the study of development. Prerequisites: Psychology 105, 150.
Ms. Uzgiris

209 LABORATORY IN EXPERIMENTAL METHODS FOR EVERYDAY LIFE

The central premise of this course is that the techniques and ways of thinking involved in psychological research are potentially useful for anyone, not just the professional psychologist-to-be. Understanding research methods helps people to obtain reliable information in real social settings and also helps them to evaluate the results of research performed by others. The course will begin with a short period of general introduction to the logic, basic techniques, and ethics of psychological research. The bulk of the course will consist of designing, actually running, analyzing, and interpreting experiments on topics of interest to the class. Students also will perform an individual experiment on a topic of their choosing. Both group and individual experiments may be in almost any area of psychology, although most will probably be in the general areas of personality, social or organizational psychology. Prerequisites: Psychology 101, 105 and at least two additional psychology courses.
Mr. Laird

210 LABORATORY IN PHENOMENOLOGY

This laboratory is designed to acquaint students with the method of "conceptual encounter"—a type of phenomenology that is useful in exploring the structure of emotional experience. Prerequisite: Psychology 184 or a philosophy course in phenomenology.
Mr. deRivera

211 FIELD OBSERVATION: COGNITIVE AND SOCIAL-INTERPERSONAL BEHAVIOR IN THE CLASSROOM SETTING

The illustration of various cognitive and social-interpersonal models of human behavior in the classroom setting will be observed. Special consideration will be given to the work of Freud, Piaget, Skinner, Wertheimer, Lewis, and F. Kluckhohn. Students will carry out field observations and formulate and execute their own individual projects. See also Education 211. Prerequisites: Psychology 105, permission of instructor.
Mr. Zern

213 LABORATORY IN INTERPERSONAL RELATIONS

Interviewing in the area of interpersonal relations with emphasis on value possessions, value transmissions and value losses will be examined. Prerequisite: permission of the instructor on day of registration; corequisite: Psychology 286. The lab is limited to 20 students.
Ms. Dembo

214 LABORATORY IN REHABILITATION

In this laboratory, stress is placed on interview technique in the study of rehabilitation issues. Prerequisite: permission of instructor on day of registration; corequisite: Psychology 274. The lab is limited to 20 students.
Ms. Dembo

215 RESEARCH IN EMOTION AND MOTIVATION

Students, working in close collaboration with the instructor, will design, conduct, and present a piece of research that investigates an emotional or motivational phenomenon. Prerequisites: Psychology 184 or Psychology 285, and permission of instructor.
Mr. deRivera

217 RESEARCH ON DEVELOPMENT IN EARLY CHILDHOOD

With roots in Piaget's theorizing, a constructivist-interactionist approach to the study of development in infancy and early childhood will be exemplified through the findings and problems from ongoing research projects. Students will each formulate a pertinent study, carry it out, and prepare papers describing their work. Prerequisite: permission of instructor.
Ms. Uzgiris

218 RESEARCH IN ANIMAL BEHAVIOR: ETHOLOGY

This course has weekly meetings in which research literature of interest to the group is reviewed, and participants' research projects are designed and evaluated. Prerequisite: permission of instructor.
Mr. Thompson

219 RESEARCH IN BRAIN DAMAGE AND BEHAVIOR

This is a course that lasts at least one academic year and is open to anyone who has the high level of motivation and intellectual curiosity necessary to develop and carry out an intensive program of research on the relationship between brain function and the organization of behavior. Essentially, the course takes the form of a "tutorial" in which there is a very close working relationship among students, the professor, and the graduate students working in the laboratory. There is active involvement in *all* phases of research, including searching available literature, planning and design of experiments, all surgical and histological procedures, data analyses, and final preparation of the material for presentation (by the students) at scientific meetings or for publication. It must be emphasized that, while solid grasp of experimental techniques is necessary, the development of conceptual and theoretical skills is given first priority. Enrollment is strictly limited and is by invitation of the instructor. Prerequisites: high academic standing, biological or experimental background desirable but not essential.
Mr. Stein

220 RESEARCH IN CHEMORECEPTION

Students will design, conduct, and interpret research in taste, smell, and flavor. Prerequisite: permission of instructor.
Mr. Stevens

221 RESEARCH IN SOCIAL PSYCHOLOGY

Students will participate in the design, execution, analysis, and interpretation of research on self-awareness and self-knowledge, including areas of emotions, attitudes, and abilities. Prerequisites: previous courses in social psychology, statistics, and at least one laboratory course, and permission of the instructor.
Mr. Laird

222 RESEARCH IN HUMAN COGNITION

The information processing approach is applied to such problems as attention, memory, visual and auditory cognition. Projects might include: (1) studies of semantic memory, (2) hemispheric differences in metacontrast, and (3) multidimensional scaling analysis of memory encoding. Prerequisite: permission of instructor.
Mr. Schmuller

223 RESEARCH IN VERBAL AND NONVERBAL COMMUNICATION

This course reviews some of the issues and methodologies used in investigations of communication, verbal and nonverbal. Each student is helped to formulate a research plan.
Mr. Wiener

224 RESEARCH IN CONCEPTIONS OF HEALTH, ILLNESS AND MEDICAL PROCEDURES

Students will participate in an ongoing research program focusing upon the causal reasoning of individuals with respect to their conceptions of health, illness, and diverse medical procedures. Normal and clinical populations throughout the life cycle may be studied. Students will be expected to complete all phases of a study: formulation of the problem and hypothesis, collection and analysis of data, discussion of results. Prerequisites: Psychology 101, 105, 150, and permission of instructor.
Mr. Bibace

225 RESEARCH IN SYMBOLIZATION

The student interested in a special aspect of symbolic representation is helped to investigate it through a piece of empirical research. Ideally the student carries out all phases of the research, including reviewing literature, designing and conducting a study, and writing a report of the literature. Limited. Prerequisites: Psychology 105, 276 and permission of the instructor.
Mr. Cirillo

226 RESEARCH IN PERCEPTION

Students will participate in an ongoing research program in collaboration with the instructor in the area of perceptual processing and the components of perceptual development. Weekly meetings will consist of a review of background literature and students will design and conduct a research project. Prerequisite: permission of the instructor.
Ms. Burns

227 RESEARCH IN REASONING IN CHILDREN AND ADULTS

Each undergraduate student will conduct a research project in the area of reasoning and logical development in close collaboration with the instructor and possibly a graduate student doing research in that area. The course is designed to provide the student with the relevant substantive background and methodological principles as well as the full experience of conducting one entire piece of research. Introductory sessions will consist of a survey of the area and of the research program in which this course takes place and an outline of several specific research projects, concerning deductive abilities in children and adults; learning of logical rules; logical aspects and other aspects of language comprehension. One of the aims of the course is to help the student develop the ability to formulate research

questions as well as the ability to design and execute the corresponding experiments, and to assess the theoretical relevance of the results. Prerequisites: Psychology 105, permission of the instructor.
Ms. Joffe Falmagne

228 RESEARCH ON DEVELOPMENTAL ASPECTS OF TRANSACTIONS OF PERSONS-IN-ENVIRONMENTS

Theory, findings, and research problems deriving from an ongoing research program—an organismic-developmental systems approach to the analysis of transactions of persons-in-environments—will be discussed. Empirical studies on problems relevant to the research program will be formulated and conducted by individual students. Papers describing the research project will be prepared. Prerequisites: Psychology 105, permission of instructor.
Mr. Wapner

229 RESEARCH PROJECTS IN SOCIAL PSYCHOLOGY

This course builds upon a familiarity with the field of social psychology and some of its research methods and focuses on team-conducted research studies of topics of special interest to the seminar. Prerequisite: permission of instructor. Also listed for credit as Sociology 270.
Mr. Sampson

230 BRAIN FUNCTION AND BEHAVIOR

This is a survey course of current problems of physiological psychology including theories of brain function. Emphasis will be placed on the underlying physiological mechanisms that mediate behavior, i.e., motivation, emotion, learning, perception, and memory. The course is constructed on a systems approach, designed to demonstrate the complex and interdependent relationship of the body and brain to behavior.
Mr. Stein

231 COGNITIVE DEVELOPMENT

The course critically surveys empirical findings and selected theoretical viewpoints (especially Piaget's) in the areas of perceptual development, development of scientific concepts, logic, and language. The relations between cognitive development and, respectively, language and culture are examined and discussed in connection with the theories surveyed. Active participation from students is encouraged. Prerequisite: permission of instructor.
Ms. Joffe Falmagne

235 PSYCHOTHERAPIES

A variety of methods of curing symptoms, solving problems in living, and promoting personal development will be considered through class discussion and illustration and through intensive reading of primary sources. Credit depends on written papers as well as class participation. Prerequisites: Psychology 172, permission of the instructor.
Mr. Cirillo

240 DEVELOPMENTAL APPROACHES TO BEHAVIOR

This is a critical examination of presuppositions, methods, concepts, and empirical inquiries of those concerned with the development of behavioral systems. Implications of developmental conceptualization for all of the life

sciences will be discussed. Psychological theories of Freud, Piaget, and Werner will be given special emphasis. Prerequisite: permission of instructor.
Mr. Kaplan

241 SEMINAR IN INDIVIDUAL DIFFERENCES IN COGNITIVE FUNCTIONING

This is an examination of the evidence for and explanation of individual differences in cognitive functioning and personality. Particular attention is given to the role of sociocultural factors in cognitive functioning. Prerequisite: permission of instructor.
Ms. Uzgiris

242 PSYCHOLOGY OF LANGUAGE

A social-psychological and anthropological analysis of the various functions of language will deal with language in everyday life, poetry, dreams, social movements, etc. Also considered will be various philosophical views of language and the relations between language and thought. Prerequisite: permission of instructor. There is a limited enrollment.
Mr. Kaplan

243 HUMANISTIC PSYCHOLOGY AND SOCIAL CHANGE

Persons who are committed to radical change tend to focus either on social change or on personal-spiritual growth. Dealing with the literature on Marxist theory, the history of social change, humanistic psychology, and the history of religion, this course will examine the thesis that any change that is a development (and not just a change) necessarily involves both social and spiritual revolution. To test our concepts about change, the group that constitutes this class will be involved in a social-action project in the Worcester community.
Mr. deRivera

244 SEMINAR IN MOTIVATION

The concept of motivation will be examined. Several theoretical models will be discussed, including those of psychoanalytic, ethological, and learning theories.
Mr. Stevens

245 DEVELOPMENT IN INFANCY

Current research on human infants will be examined, with emphasis on relations between functioning during this period and later in ontogenesis. A view of the child as an organized adaptive system will be emphasized. Topics to be considered include learning, intellectual functioning, social relationships with others, and the beginnings of language. Some consideration will be given to deviations from normal development. Prerequisite: permission of instructor.
Ms. Uzgiris

247 SOCIAL DEVELOPMENT FROM INFANCY THROUGH ADOLESCENCE

This is an examination of theories and research dealing with the process of socialization in the first two decades of life. Topics to be emphasized include: attachment, role taking, the development of social and sexual identity, and moral development.
Mr. Damon

248 CONCEPTS IN THEORIES OF PERSONALITY—NORMAL AND ABNORMAL

This course is a consideration and critical analysis of: (1) concepts and issues in theories of personality, and (2) concepts used to account for deviant behavior. Prerequisites: Psychology 172, 254.
Mr. Wiener

250 COMMUNICATION: VERBAL AND NONVERBAL

This course deals with: (1) an analysis of the term communication and (2) a study of the varieties of communication patterns for different populations.
Mr. Wiener

251 CURRENT CONCEPTS IN MENTAL HEALTH: THEORY AND PRACTICUM

The course meets three days a week at Worcester State Hospital during which time students attend a lecture series on various facets of mental health care given by hospital personnel. In addition, students are assigned to wards in order to observe directly the operation of this hospital and to talk with staff and patients. All work by students is supervised by predoctoral psychology interns. A paper is required. Prerequisite: Psychology 254.
Mr. Peterson

253 GROUP AND FAMILY PROCESSES

This course combines theoretical and experiential modes of learning designed to familiarize the student with the skills and techniques involved in group work with families and other small groups. Prerequisite: Psychology 170. Also listed for credit as Sociology 295 and Education 295.
Mr. Sampson

254 INTERPRETATION OF BEHAVIORS TRADITIONALLY SUBSUMED BY "ABNORMAL PSYCHOLOGY"

The course will deal with the interpretation of some behaviors usually subsumed by "Abnormal Psychology." Behaviors such as schizophrenia, depression, hysteria, obsession, and antisocial personality will be examined. The goal is to articulate multiple theoretical and relational perspectives regarding what is referred to as "abnormal," assumptions regarding how "abnormality" comes about, methods of treatment and the assumptions which lie behind them. Students participate in the clinician's "world of action." Students observe, describe, interpret, and prescribe courses of action for sample "cases," which fall within various "abnormal categories." Prerequisite: Psychology 172, permission of instructor.
Mr. Bibace

255 SOCIAL PSYCHOLOGY OF IDENTITY

We will examine the concept of self or identity as it develops within the social world. Identity will be approached from a life-span developmental perspective, a comparative perspective, and a social psychological perspective. The course will attempt to join a theoretical with an experiential process of teaching-and-learning. Prerequisite: Psychology 170. Also listed for credit as Sociology 260 and Education 259.
Mr. Sampson

257 HISTORY OF PSYCHOLOGY I

The historical development of views concerning the nature of mind and its place in nature: from the beginnings to the rise of modern science. Limited.
Mr. Kaplan

258 HISTORY OF PSYCHOLOGY II

The historical development of views concerning the nature of mind and its place in nature: from the rise of modern science to the present day. Limited. Prerequisite: Psychology 257.
Mr. Kaplan

261 HUMAN NEUROPSYCHOLOGY

Beginning with the neurological basis of behavior and neurobehavioral abnormalities, the field of cortical function is surveyed from the clinical, theoretical, and experimental viewpoints. Topics covered include aphasia, cerebral dominance, memory and its disorders, organic disorders of perception and emotions, methods used in clinical and experimental study.
Ms. Oscar-Berman, Staff

262 INFORMATION PROCESSING—MEMORY AND PERCEPTION

Models of normal information processing and their application to neurologically impaired perceptual and mnemonic processes will be reviewed. An attempt will be made to show how different neurological disorders represent failures at distinctive stages of information processing. Clinical materials related to visual object agnosia, constructional apraxia, and various amnesic states will be presented and discussed in detail. Emphasis will be placed upon a critical examination of the theoretical and experimental investigations of Luria, Teuber, Talland, and Milner. Open to advanced undergraduate and graduate students.
Ms. Oscar-Berman, Mr. Butters, Mr. Cermak

263 SEMINAR IN VISUAL PERCEPTION

Selected topics in visual perception research and theory will be covered including: contrasting theories of visual perception, modes of perceptual processing, perceptual development, organizational factors and perception, and concept formation and categorization. Prerequisites: Permission of the instructor.
Ms. Burns

264 HISTORY AND EVOLUTION OF IDEAS IN BRAIN FUNCTION AND BEHAVIOR

This seminar course will discuss the evolution of the concepts of brain function and structure beginning with ancient Greek and Middle Eastern notions of the mind-body problem and ending with current concepts and models based on mathematical and holographic metaphors. The issue of localization of function in the brain and the evolution of thinking about this problem will serve as the underlying theme for organizing the topic. Other related issues such as: reductionism, emergence, psychophysical parallelism, and determinism also will be discussed and evaluated. Open to advanced undergraduates and graduate students. Prerequisites: at least one course in undergraduate physiological psychology or its equivalent, permission of instructor. All students will be expected to present a seminar and lead a critical and evaluative discussion of the materials they present.

A major critical and evaluative paper on the topic of the student's choice must be submitted by the end of the semester to obtain credit for this course.
Mr. Stein

265 INFORMATION PROCESSING—NEUROLINGUISTICS

The phenomena of aphasia, alexia, and associated disorders of language will be considered in relation to theories of the storage and processing of verbal information. Relevant models dealing with phonology, word selection, syntax, and semantics will be discussed. Attention will be given to the special problems of using psychological theories based on experimental data from normal subjects to account for findings with brain-damaged patients. Open to advanced undergraduate and graduate students.
Mr. Howes, Ms. Menn

266 CEREBRAL DOMINANCE SEMINAR

The distinctive roles of the left and right hemispheres in humans will be reviewed, first by examining alterations in language and nonverbal behavior under conditions of unilateral brain damage and section of the corpus collosum. A second approach will involve the examination of techniques used to investigate hemispherical functional asymmetry in the normally intact brain. Special attention will be devoted to hemispheric asymmetry in relation to different levels of language processing. Open to advanced undergraduate and graduate students.
Mr. Goodglass, Ms. Kaplan, Mr. Zurif

267 SEMINAR IN BEHAVIOR AND EVOLUTION

This is a consideration of selected contemporary issues in the phylogeny and ontogeny of behavior in general and social behavior in particular. Also listed for credit as Biology 334.
Mr. Thompson

268 PSYCHOLINGUISTICS

The course is intended for graduate students and advanced undergraduates with a solid formal background. The first part of the course will consist of a systematic introduction to linguistics (generative transformational grammar, semantics). The second part will be a survey of selected empirical work in psycholinguistics, aimed at providing familiarity with the literature, issues, and bibliographical sources, and at identifying and formulating new or continuing empirical questions. The course will be conducted as a workshop, in which the sequence of readings and topics will ensure a systematic progression through the material, and each student will have primary responsibility for the formal presentation of part of the material on one session. A supplementary reading list will be provided at the end of the course; the aim of the course is to enable students to continue reading on their own in the area after this introductory background. Prerequisite: permission of instructor. The course is limited to 10 students.
Ms. Joffe Falmagne

270 SEMINAR—ADVANCED TOPICS IN SOCIAL PSYCHOLOGY

This is an intensive treatment of selected areas in social psychological

research and theory, including consistency theories in attitude formation and in interpersonal perception; attribution theory in self-perception; social/situational determinants of normal, everyday behavior and of antisocial behaviors such as violence, criminality, and riots. Ordinarily limited to senior majors in psychology or sociology. Prerequisite: permission of instructor.
Mr. Laird

273 SOCIAL PSYCHOLOGICAL THEORIES

We will examine some of the major theoretical contributions to social psychology, including Lewin, Mead, Freud, and others and selected representatives of the critical tradition, including Adorno, Horkheimer, and Marcuse. Prerequisite: Psychology 170. Also listed for credit as Sociology 292.
Mr. Sampson

274 SEMINAR IN REHABILITATION

Psychological problems in everyday life situations, such as problems of the physically disabled, mentally retarded, the aged, the poor, etc. will serve as topics. The primary focus is on interpersonal relations and their importance for environmental changes. The seminar is limited to 20 students. Prerequisite: permission of instructor on day of registration; corequisite: Psychology 214.
Ms. Dembo

276 SYMBOLISM IN EVERYDAY LIFE: MYTH, DREAM AND SYMBOL

A close examination of the processes of symbol formation in everyday figurative and metaphorical language, in dreams, in myths, and in other productions of the imagination. Both cultural and individual manifestations of symbol formation will be examined, and various frameworks for interpretation of symbols will be critically discussed. Problems of validity of interpretation will also be explored. Prerequisite: permission of the instructor.
Mr. Kaplan

277 THE CREATIVE PROCESS

A critical examination of a number of attempts, in the humanities and human sciences, to describe and/or explain manifestations of creativity in the arts, sciences, and other domains. Major focus will be on the factors presumably constituting the creative act or inherent in creative functioning. Subsidiary attention will be paid to conditions in the cosmos, society, or the 'personality structure' putatively facilitating or inhibiting creative functioning. Among the theorists considered will be such philosophers as Aristotle, Kant, Hegel; such belles-lettrists as Coleridge, K. Burke, A. Koestler; psychoanalysts of various persuasions and degrees of clarity, Freud, Kris, Rycroft, Jung, Neumann, Arieti, et al; psychologists from various schools, phenomenological, Gestalt, behavioristic. One requirement for the course is a final paper, in which each participant articulates his/her conception of the creative process and its conditions and rigorously defends his/her formulation. Limited to 20 students. Permission of the instructor.
Mr. Kaplan

278 COGNITIVE DEVELOPMENT FROM INFANCY TO ADOLESCENCE

This seminar will focus on an examination of selected research studies and theoretical accounts of concept development, memory, and reasoning, with special emphasis on Piagetian and Soviet perspectives. Prerequisite: permission of instructor.

Ms. Uzgiris

279 DEVELOPMENT OF CONSCIOUSNESS

A seminar designed to examine critically various esoteric views concerning the development of consciousness (mind) and stages of consciousness, and to compare and contrast these views with those prevailing in current academic psychology under the rubrics of *cognitive development* and *personality development*. Among the views considered will be those deriving from Eastern thought (Vedas, Yoga, Buddhism), Near Eastern thought (Sufiism, Gurdjieff-Ouspensky, Arica) and Western religious and philosophical thought. Among the currently considered views with which these will be compared and contrasted are those of Freud, Jung, Piaget, and Werner in psychology, and Cassirer in philosophy. Prerequisite: permission of the instructor.

Mr. Kaplan

284 TOWARDS A CRITICAL SOCIAL PSYCHOLOGY

This seminar will examine alternative perspectives to the dominant points of view (theories and methods) in social, personality, and developmental psychology. The emphasis will be on the writings of the Frankfurt School (e.g., Adorno, Horkheimer, Marcuse, Habermas) and on more "contextualized" approaches within the American tradition itself (e.g., Mead, Sullivan). Our intention is to examine these various perspectives and their implications for the study and practice of social (and related) psychology. The seminar presupposes a general familiarity with the existing state of the fields of social, personality, and developmental psychology. Permission of the instructor is required to join the seminar. Also listed for credit as Sociology 287.

Mr. Sampson

285 FIELD THEORETICAL APPROACH TO ACTION AND EMOTION

The basic motivational dynamics that underlie willed action appear to differ from the dynamics underlying emotion. After a close examination of the field theory of action and emotion and of the structural theory of emotion, we will attempt to construct a theory that can relate action and emotion as we experience them. Prerequisite: permission of instructor.

Mr. deRivera

286 SEMINAR IN INTERPERSONAL RELATIONS

Value problems pertaining to interpersonal relations will be discussed, including value possessions, value losses, regaining of values, and adjustment to value losses. The pertinence of these topics in rehabilitation will receive special consideration. The seminar is limited to 20 students. Prerequisite: permission of instructor on day of registration; corequisite: Psychology 213.

Ms. Dembo

287 RESEARCH PROBLEMS IN PHYSIOLOGICAL PSYCHOLOGY

This is an advanced tutorial course in research methodology including surgical and stereotaxic techniques, histology, EEG recording and analysis, and general methods for animal care. Prerequisite: permission of instructor. Offered on an "as-needed" basis.
Mr. Stein

288 LOGICAL REASONING IN ADULTS AND CHILDREN

The course will cover in depth the current empirical findings and theoretical developments in the areas of propositional reasoning, syllogistic reasoning, and transitive inference in children and adults. Issues related to the notions of mode of representation and of logical competence will be given particular attention, and connections with the adjacent area of psycholinguistics will be discussed. The research and models concerning reasoning in children and reasoning in adults, respectively, will be presented from a common perspective, and the contrasts and connections with the Piagetian perspective will be indicated. The course will be conducted as a workshop, in which the sequence of readings and topics will ensure a systematic progression through the material, and each student will have primary responsibility for the formal presentation of part of the material on one session. A suppplementary reading list will be provided at the end of the course; the aim of the course is to enable students to continue reading on their own in the areas after this introductory background. Prerequisite: permission of the instructor. Limited to 10 students.
Ms. Joffe Falmagne

289 PSYCHOLOGY FROM THE VIEWPOINT OF AN ORGANISMIC-DEVELOPMENTALIST

This is a systematic, integrated overview of the field of psychology. Using organismic-developmental theory as an integrating framework, paradigmatic problems and methods in psychology will be surveyed with a major focus on the interrelationship of assumptions, hypotheses, and empirical findings in each area. A variety of phenomena of central interest to psychologists will be treated utilizing such concepts as levels of organization, person-environment systems, structure-function relationships. The course will be conducted in seminar fashion, and students will be expected to participate actively by analyzing relevant empirical work, giving presentations, etc. Prerequisite: permission of instructor.
Mr. Wapner

296 DIRECTED RESEARCH IN PSYCHOLOGY

This is an independent study for qualified students not in the honors program. Prerequisite: permission of department chair. Offered for variable credit.
Staff

297 DIRECTED READINGS IN PSYCHOLOGY

This is independent study for qualified students not in the honors program. Prerequisite: permission of department chair. Offered for variable credit.
Staff

298 SUPERVISED PRACTICUM AND DIRECTED READINGS IN USE OF PSYCHOLOGICAL KNOWLEDGE AND METHODS IN PRACTICAL SETTINGS

Supervised practical experience in a work-setting relevant to a topic selected by the student from the subject matter of a psychology course taken previously, with associated bibliographical research. Must be sponsored by a member of the Clark psychology faculty who will evaluate the academic component of the student's work, typically through a term paper on the selected topic integrating information from the professional literature with observations made in the practicum. May be taken for one course credit in one semester and may substitute in the psychology major for one of the two required upper level seminars (in the 240-289 range) unless one of the courses offered in satisfaction of that requirement is Psychology 251 (Current Concepts in Mental Health). Enrollment must be approved by the course coordinator.

Mr. Baker, Staff

299 HONORS IN PSYCHOLOGY: SENIOR YEAR

Students will carry out a research project under the direction of a member of the staff.

Staff

300 PROSEMINAR—DEVELOPMENTAL PSYCHOLOGY

A seminar devoted to the presentation and critique of different developmental approaches to the individual and his/her ways of functioning in the world. Among the approaches considered are: (1) Piagetian, (2) organismic-developmental, (3) Soviet approaches to psychology, and (4) Freudian and neo-Freudian. The aim of the seminar is to acquaint the participants with sympathetic expositions of diverse points of view and the application of these viewpoints to empirical inquiry. It will thus provide a basis for subsequent discussions in other seminars of the various ways of dealing with substantive issues (e.g., learning, moral action and moral judgment, language, the processes of thinking). Several faculty members and advanced graduate students will participate in conducting the seminar.

Ms. Burns, Mr. Damon, Ms. Uzgiris,
Ms. Joffe Falmagne, Mr. Kaplan

301 PROBLEM, THEORY, AND METHOD IN PSYCHOLOGY

During the first half of Semester 1, students will present the perspectives and research of faculty members with an emphasis on the special features of methodology they employ, including the links between method, theory, problems, and findings. During the second half of Semester 1, and Semester 2, there will be informal, ad hoc, individual or group meetings in which students will present proposals for their M.A. theses. At the end of the second semester, students will submit written reports which cover the status of their research.

Mr. Wapner

302 STATISTICAL METHODS

During Semester 1, the theoretical foundations of inferential statistics are discussed. Topics include probability, sampling distributions, and hypothesis testing. The second semester is concerned with complex analysis of variance designs and regression. Also, students learn to use the

statistical package on the University computer.
Mr. Schmuller

303 PROSEMINAR IN EXPERIMENTAL PSYCHOLOGY

This is an introduction to psychophysics, sensory processes, theories of perception, theories of learning, memory, language, information processing, higher mental processes, including the biological bases thereof. This seminar is designed to give students basic concepts in classical and contemporary psychology and to survey the theories, major findings and contemporary issues in those areas. Several faculty members will conduct the class, each being responsible for the section of the course in her/his area of specialization.
Ms. Burns, Ms. Joffe Falmagne,
Mr. Schmuller, Mr. Stevens, Mr. Wiener

304 FORMAL MODELS FOR PSYCHOLOGY

This is an introduction to formal methods and models applicable to psychological theorizing. The aim of the course is to familiarize students with methods and formal ways of thinking of wide applicability across content areas, to indicate how various theoretical or empirical questions can be formalized in those terms, and to equip students with the sources and further readings that will enable them to pursue those topics further on their own. The topics covered in the first segment of the course will include sets and relations, groups, lattices, fuzzy sets, formal grammars and automata, and Markov chains. Illustrative applications of those methods to various content areas will be presented and worked out. The second segment of the course will deal with psychological measurement. Topics to be discussed include foundations of psychological measurement, Thurstonian scaling, factor analysis, and current multidimensional scaling techniques. Students will use each of these measurement models to analyze sample data.
Ms. Joffe Falmagne, Mr. Schmuller

305 BASIC PSYCHOLOGICAL PROCESSES IN SOCIAL-PERSONALITY

This is an examination of important processes in social-personality psychology. Topics include processes in motivation, attribution and evaluation, group formation and development, in the interactions between individual dynamics and cultural institutions.
Mr. deRivera, Mr. Laird

309 ADVANCED SEMINAR IN PSYCHOBIOLOGY

This seminar is designed to cover topics mutually agreed upon by the instructor and students. Past subjects have included: psychobiology of aging, experimental approaches; neuroplasticity and recovery from brain damage; physiological aspects of learning and memory; developmental neurobiology. Although the course primarily is open to graduate students, undergraduates who have successfully completed Psychology 230 may request permission to enroll. All students are required to conduct a seminar and lead discussions.
Mr. Stein

311(a) CLINICAL METHODS, I

This is an introduction to psychometric and projective assessment.
Ms. Kellett

311(b) CLINICAL METHODS, I

This is a clinical interpretation of representational behavior in projective tests and interviews from a cognitive and developmental viewpoint. Offered as a half course, first half of second semester.
Mr. Cirillo

311(c) CLINICAL METHODS, I

This is a clinical seminar in neuropsychological assessment. Offered as a half course, second half of second semester.
Ms. Kaplan, Mr. Goodglass

312 PSYCHOPATHOLOGY

This is an introduction to psychopathology—directly, through naturalistic observation and interviews with seriously disturbed individuals and indirectly, through clinical and experimental reports related to description and explanation of psychopathology. A paper on some specific psychopathological phenomenon (e.g., delusions, hallucinations) will be required.
Mr. Bibace

314 DEVELOPMENTAL CHANGES IN INFORMATION PROCESSING

This seminar will focus on the developmental changes in information processing that may account for limitations in children's memory and cognition. The interaction of memory development and other cognitive abilities will be considered in surveying the current research evidence. Specific topics considered will be the processes involved in: iconic memory, STM, perceptual and linguistic encoding, recognition, the detection and utilization of category information, rehearsal, inferencing, and metamemory.
Ms. Burns

315 IMITATION, INTERNALIZATION, IDENTIFICATION

This seminar is concerned with processes involved in self-other differentiation and the influence of significant others in the construction of the self. The writings of J. M. Baldwin, J. Piaget, G. H. Mead, A. Bandura, R. Schafer, M. Mahler, and J. Macmurray pertaining to these processes are discussed and relevant research evidence is considered.
Ms. Uzgiris

317 BEHAVIOR IN INFANCY

The seminar will proceed from an examination of the capacities for functioning in the neonate to a consideration of the changes in those capacities during ontogenesis with a view toward understanding the infant's organization of its functioning in the world.
Ms. Uzgiris

319 SEMINAR ON GENETIC-STRUCTURAL APPROACH TO MENTALITY

A seminar devoted to demonstrating how genetic structural approaches, viz., those of Marx, Freud, Jung, Cassirer, Werner, Piaget and others, deal with the analysis of mentality as revealed in collective and individual activity. Special emphasis on the categories basic to all genetic structural approaches.
Mr. Kaplan

320 ADVANCED SEMINAR IN GENETIC-STRUCTURAL APPROACH TO MENTALITY

A seminar devoted to the examination of developmental approaches to human life which focus on "liberation," "freedom," "individuation," etc. as the telos (goal) of development. Included here will be the thought of philosophers and sociologists as well as psychologists. Different genetic-structural theorists will be considered from year to year.
Mr. Kaplan

322 PSYCHOLOGY OF LEARNING

Theoretical viewpoints and experiments in the field of learning will be considered.
Mr. Stevens

324 THEORIES OF PERSONALITY I: ISSUES IN THE PHILOSOPHY OF PSYCHOLOGY

This course covers three areas: (1) discussion of the philosophical bases of "theories" of personality, (2) consideration of some of these issues in different theories (e.g. Freud, Kelly, Dollard, and Miller), and (3) presentation and discussion of an alternative framework.
Mr. Wiener

327 MORAL DEVELOPMENT

The classical and contemporary approaches to the development of moral judgment and conduct in the individual will be studied. Emphasis will be on new and future directions for research in this area.
Mr. Damon

328 SOCIAL COGNITION

This course will focus on contemporary approaches to the study of social reasoning in children, adolescents, and adults. Emphasis will be on the individual's developing knowledge of interpersonal relations, the self, and other persons. Recent theoretical and empirical work will be considered.
Mr. Damon

329 SEMINAR IN GENERAL PSYCHOLOGY FROM THE ORGANISMIC-DEVELOPMENTAL PERSPECTIVE

In-depth exploration of general psychology in the context of a teaching practicum. To be taken concurrently with assisting in Psychology 101, General Psychology. Optional for students assisting in Psychology 101.
Mr. Wapner

330 GRADUATE SEMINAR ON TEACHING OF GENERAL PSYCHOLOGY

Graduate students, who will participate as teaching assistants in general psychology, will work on the formulation of all features of the course including assignments, responsibilities for lectures, readings, demonstrations, etc.
Staff

331 CLINICAL METHODS, II

A practicum devoted to clinical experiences primarily with children. This includes intelligence and projective testing, diagnostic interviewing, and play therapy with children.
Mr. Ciottone

332 THEORIES OF PSYCHOTHERAPY

A comparison of various theoretical approaches to psychotherapy will be considered.
Mr. Wiener

335 ADAPTATION

In both psychology and biology, much misguided effort has been expended in trying to explain the structure and behavior of the organism in terms of the environment and *vice-versa.* In this seminar we explore various contemporary movements which *describe* the organism and the environment as a single integrated whole and then seek elsewhere for the explanation of the structure of this whole.
Mr. Thompson

336 LANGUAGE DEVELOPMENT

The seminar is aimed at providing an overview of the theoretical and empirical work on the various aspects of language development and their interactions. Semantic, syntactic, and logical development will be covered, as well as their interrelations and their relation to the development of symbolization and of communication. Relevant material from the related areas of cognitive development and of linguistics will be covered, and theories of language development and language acquisition will be discussed.
Ms. Joffe Falmagne

337 SEMINAR ON REASONING

The current theoretical and empirical literature on logical reasoning will be examined in depth with particular attention to the notion of logical competence and its alternatives. Formal models proposed for natural logic will be surveyed, as well as material focusing on the deductive process, per se. The closely related areas of semantics, language comprehension, imagery, and representation of meaning in long-term memory will be selectively covered. Prerequisites: Psychology 268, 286, 336, or equivalent background recommended. Otherwise negotiate supplementary readings with instructor.
Ms. Joffe Falmagne

338 CONCEPTIONS OF PERSONS

An examination of research and theory on attributions to self and others and their relationship to action.
Mr. Laird

339 SEMINAR ON THE EFFECTS OF EARLY EXPERIENCE

This is an examination of recent evidence pertaining to the effects of various circumstances during early ontogenesis on the course of perceptual, cognitive, and motivation development; aimed at conceptualizing these effects within a coherent framework.
Ms. Uzgiris

340 PHENOMENOLOGY OF INTERPERSONAL RELATIONS

This course uses our knowledge of various emotional transformations (e.g., changes in self-boundary) to develop a precise language for the description of interpersonal phenomena such as merger-separation, dynamics, identification, and the dynamics of family constellations.
Mr. deRivera

343 SEMINAR IN CHEMORECEPTION

Selected current topics in taste and smell will be examined.
Mr. Stevens

351 CLINICAL METHODS, III

Practicum training in some special area, e.g., child clinical, family interactions, human neuropsychology.
Staff

352 CLINICAL METHODS, IV

Practicum training in diagnostic interviewing and behavior change in the Psychological Services Center.
Mr. Baker, Mr. Bibace, Mr. Cirillo, Mr. Wiener

353 THEORY AND PRACTICUM IN BEHAVIOR MODIFICATION

Mr. Peterson

357 SYMBOLIC BEHAVIOR

The seminar's first semester will deal with "primitive" forms of cognition and expression (representation, symbolization) as these are manifested in ontogenesis (language behavior, play, etc.) in the collective representations of nonliterature societies (as discussed by Levy-Bruhl, Levi-Strauss, and others), in oneiric states (dreams, hypnogogic conditions) in poetry, and in organic- and psychopathology. During the second semester the seminar will be oriented toward research in the area of "primitive" thinking and expression. Only those registered during the first semester will be permitted to enroll during the second semester.
Mr. Kaplan

365 SEMINAR IN RESEARCH ON LANGUAGE AND LOGICAL DEVELOPMENT

Specific topics in adolescent propositional reasoning, language development, acquisition of propositional reasoning, and language development will be examined in depth. The relevant literature will be surveyed and research projects will be developed by the students in these respective areas. The intended outcome of the seminar is for each student to produce an extensive literature review paper and a research proposal on one of these specific topics.
Ms. Joffe Falmagne

380 RESEARCH IN PSYCHOLOGY

Direction of individual students in their research.
Staff

381 READINGS IN PSYCHOLOGY

This is a critical analysis of literature in areas related to individual research.
Staff

382 CONSULTATION IN FAMILY PRACTICE

Practicum in consultation to residents in family medicine.
Mr. Bibace, Mr. Catlin, Ms. Cotsonas

385 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, I
Mr. Baker, Clinical Staff, Mr. Bibace,
Mr. Cirillo, Mr. Wiener

386 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, II
Mr. Baker, Clinical Staff, Mr. Bibace,
Mr. Cirillo, Mr. Wiener

387 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, III
Mr. Baker, Clinical Staff, Mr. Bibace,
Mr. Cirillo, Mr. Wiener

388 PARTICIPATION IN PSYCHOLOGICAL SERVICES CENTER, IV
Mr. Baker, Clinical Staff, Mr. Bibace,
Mr. Cirillo, Mr. Wiener

389 INTERNSHIP IN PSYCHOLOGY
Staff

Russian

See Department of Foreign Languages and Literatures.

Science, Technology and Society

PROGRAM FACULTY

Christoph Hohenemser, Ph.D., Professor of Physics, Program Chair
Dennis W. Ducsik, Ph.D., Assistant Professor of Science, Technology and Society, Associate Chair and Undergraduate Adviser
Roger E. Kasperson, Ph.D., Professor of Government and Geography
Robert W. Kates, Ph.D., Professor of Geography and Research Professor
John T. Reynolds, Ph.D., Professor of Microbiology
Harry E. Schwarz, B.C.E., Professor of Environmental Affairs
John A. Davies, Ph.D., Associate Professor of Physics
Robert L. Goble, Ph.D., Research Associate Professor of Physics
Harvey A. Gould, Ph.D., Associate Professor of Physics
Alan A. Jones, Ph.D., Associate Professor of Chemistry
Peter Magnante, Ph.D., Research Associate Professor of Physics
Don M. Shakow, Ph.D., Assistant Professor of Economics

UNDERGRADUATE PROGRAM

STS is a program of interdisciplinary study with emphasis on the assessment of policy questions involving the use and misuse of science and technology. The goal of the program is to produce individuals who are able to deal with technical issues in a social and political context, and who do so with an acute awareness of the short and long range limitations of the natural environment. Participating faculty have interests and research activities in a wide range of current societal problems , and regular courses of instruction are offered in three principal areas: (1) energy technology and policy, (2) environmental science and management, (3) assessment and control of technological hazards.

A major in STS would be of interest to students with an inclination toward science and a concern for the numerous and complex problems facing our technological society. The program also is attractive to students who wish to add an interdisciplinary component to their studies within a traditional field, as majors from other departments often constitute the majority of students enrolled in program courses. Science majors in particular find STS courses a useful way of adding breadth to their departmental programs.

Graduates of the program have begun to pursue varied and interesting careers in a diversity of fields. Several former STS students, for example, are doing graduate work in areas such as environmental engineering, technology and human affairs, medicine, and law. Others have secured positions with private and public organizations in the energy field. Future graduates might become government regulatory officials, science writers and teachers, environmental lawyers, or community service workers. Many possibilities exist for the person with a broad-based education and some familiarity with the interdisciplinary problems dealt with in the STS field.

Although natural science and social science are both important to the program, degree requirements do not give them equal weight. There is an emphasis on achieving literacy in natural science, and the reason is twofold: (1) many significant problems are accessible only with a thorough grounding in natural science; (2) in the nation's future there is a significant need for managers of science and technology, whose technical background is more than perfunctory. Recognizing this, majors in the program often take more than the minimum number of required science courses and, in many cases, have elected to double major with a regular science department.

The requirements for the major in Science, Technology and Society are as follows—

1) Ten semesters of basic natural science, with at least six in a single discipline. For the present purpose, the natural sciences are considered to include physics, chemistry, biology, and mathematics. Certain courses in economics may also be creditable toward this requirement.
2) Four semesters of basic social science, carefully selected with the advice of the Program Committee to complement the natural science concentration and to fulfill the goals of the student. These courses are frequently drawn from areas such as economics, government and law, geography and environmental affairs.
3) Three semesters of courses offered under the auspices of the program, as listed below. These courses are all problem-oriented, provide a distinct multidisciplinary perspective, and, in many cases, are offered jointly by two or more of the program faculty.

The choice of specific courses to meet these requirements must be approved by the Program Committee, after discussion with individual members, including those who are affiliated with departments in which the students have their science concentration. Students should present a tentative plan of study to the undergraduate adviser at the earliest possible date and are encouraged to meet with him at the beginning of each semester thereafter.

Honors in Science, Technology and Society are awarded upon presentation and oral defense of an undergraduate thesis. Students who wish to receive honors must have attained at least a 3.0 grade point average in STS-required courses by their junior year, and are encouraged to begin work the following summer on a project or internship that can be extended into a thesis during the senior year.

Students wishing to examine sample programs or obtain more detailed information about STS should request a *Guide for Prospective Majors* from the undergraduate adviser.

INTERNSHIPS AND RESEARCH OPPORTUNITIES

Majors in the STS Program are encouraged to strengthen their educational experience further by working in paid summer jobs related to their academic interests. These internships are often obtained with the advice and assistance of the Program Committee, whose members have contact with numerous organizations. Examples of placements in recent years include the Town of Holden Conservation Commission, the Massachusetts Energy Office, the Scientists Institute for Public Information, the Central Massachusetts Regional Environmental Council, the Massport Office of Noise Control, the Central Massachusetts Air Pollution Control District, and the Massachusetts Office of Coastal Zone Management.

Another important way for undergraduates to supplement their formal classroom training is to participate in one of several research projects conducted each year by members of the Program Committee. The results of such work are often published in the *STS Review*, an occasional journal which began operation in November of 1975.

One continuing project that has involved undergraduates in past years is the Cogeneration Feasibility Project, a study of the technical, economic, environmental, and legal aspects of the proposed generation of both steam heat and electricity on the Clark campus. Other projects in which students participate include a major study of the management of technological hazards, and a statewide information and referral service on energy conservation in the home (the "Energy Phone").

THE CENTER FOR TECHNOLOGY, ENVIRONMENT, AND DEVELOPMENT

Several faculty of the STS Program are members of the Center for Technology, Environment, and Development (CENTED), designed to consolidate a variety of interrelated research activities of some twenty or more faculty with common interests in technology assessment, environmental protection, and international development. Among the principal goals of CENTED are to provide interdisciplinary educational experiences using research as a primary mode of learning, and to increase the University's outreach to society through the broad dissemination and application of research findings.

GENERAL COURSES

101 INTRODUCTORY CASE STUDIES

This course introduces students to the fields of technology assessment and environmental affairs by presenting a series of problem-oriented, interdisciplinary cases. Announced at the beginning of each semester, these cases are drawn from such areas as population and food, land and water resources management, energy, pollution control, and technological risk

assessment. An integrative research paper, prepared in close consultation with an instructor, plays a major role in the course, and guest speakers, field trips, and special class exercises are also used to enhance the learning experience. Also offered for credit as Environmental Affairs 101.
Mr. Ducsik, Mr. Hohenemser, Mr. Schwarz, Staff

116F COMPUTER SIMULATION OF SOCIAL AND ECOLOGICAL SYSTEMS

An introductory course in the use of computer simulation to understand the dynamic behavior of simple models of social and ecological systems. Topics to be discussed include the nature and role of models, feedback and system structure, introduction to programming using DYNAMO, and applications to policy questions. The course is intended primarily for freshmen and sophomores who have a modest background or no background in mathematics or programming. Other students may enroll with permission of the instructor. Also listed for credit as Environmental Affairs 116F and Mathematics 116F.
Mr. Gould

219 SYSTEMS ANALYSIS AND SIMULATION

This course applies the methodology of systems analysis to societal problems related to resource management, climate and society, and limits to growth. The overall goal is to develop paradigms for understanding the dynamic behavior of social systems. Important concepts and techniques discussed include classifications of systems and models, feedback control, system structure and dynamics, simple difference equations, stability and equilibrium, policy analysis, and a survey of various deterministic and probabalistic methodologies. Students design, simulate, and analyze their own computer models using DYNAMO and BASIC. There are no formal prerequisites but some background in mathematics and computer programming is desirable. Also listed for credit as Environmental Affairs 219 and Geography 277.
Mr. Gould, Mr. Schwarz

274 ISSUES FOR SURVIVAL

A seminar intended primarily as a capstone experience for seniors. After a series of presentations by STS faculty and invited guests on major global issues involving technology and society (e.g. population, food, energy, resources, environment), students will pursue research with an individual instructor on a tutorial basis.
Mr. Hohenemser, Staff

ENERGY-RELATED COURSES

130 ENERGY SOURCES AND SYSTEMS

An introduction to the subject of energy for STS majors and others interested in the utilization of fossil fuels, solar and wind power, geothermal energy, and nuclear fission and fusion. Emphasis is placed on basic concepts, thermodynamic principles, efficiency of use, methods of converting both energy and energy resources from one form to another. The course provides the necessary background for those planning more detailed study of energy technology and/or policy, and also satisfies the prerequisite for STS 132, Alternative Energy Systems Laboratory.
Mr. Davies

131 SOLAR ENERGY

This is a critical survey of existing and proposed methods of utilizing solar energy. Topics include a history of solar energy applications, the use of solar energy for space and water heating, the limitations imposed by thermodynamic laws and economic costs, and an analysis of methods of producing work from solar energy (e.g., solar heat engines, wind, solar cells, ocean thermal gradients, biological methods, etc.). No particular background in physical science beyond high school physics or chemistry is needed. Students will be asked to analyze and evaluate simple systems quantitatively and will become familiar with experimental solar devices now at Clark. Also listed for credit as Physics 131.
Mr. Davies

132 ALTERNATIVE ENERGY SYSTEMS LABORATORY

This lecture and laboratory course is designed to complement and augment STS 131. The subject matter is approached by first developing the concepts of temperature, heat, and energy and then applying these ideas to alternative energy devices. Laboratory experiments include measurement of the performance of solar collectors, photovoltaic cells, and wind machines. Corequisite: Physics 11 or 12, or prerequisite: STS 131. Limited. Two lectures and one laboratory per week. Also listed for credit as Physics 132.
Mr. Goble

201 ENERGY PATHS AND POLICIES

A wide-ranging examination of the global energy situation and the "crisis" facing our energy-intensive industrialized nation. In the first several weeks basic information is presented about trends and patterns in consumption, future availability of oil and other resources, and the environmental, economic, and social costs of energy production. The second half of the course focuses on major policy issues such as "hard" versus "soft" energy paths, the role of conservation, the status of non-conventional technologies, and the nature of governmental programs. Some background in energy science or technology is helpful, and permission of the instructor is required.
Mr. Ducsik

231 ELECTRICITY PLANNING AND REGULATION

As manifest in the recent controversy surrounding the Seabrook nuclear power plant, the future of electricity supply is among the most hotly debated of all energy-related issues in the U.S. After providing students with appropriate background on the salient technical, economic, and institutional aspects of electricity production, this course examines a number of key policy issues (e.g., load forecasting, fuel choice, siting, pricing) with an eye toward their environmental and social consequences. The Seabrook case is used to illustrate how effectively utility planning and governmental regulation operate with respect to these issues. Also listed for credit as Economics 231.
Mr. Ducsik, Mr. Shakow

272 SPECIAL PROBLEMS IN ALTERNATIVE ENERGY RESOURCES

A project-oriented course tied to ongoing faculty research. In recent semesters, the seminar has focused on a variety of economic and environmental issues associated with decentralized power generation,

using the proposed Total Energy Systems for Clark University as a test case. Currently under investigation is the meteorology of the Worcester area and the potential air quality effects of a diesel-fired cogeneration plant on campus.
Mr. Goble

273 PRACTICUM IN HOME ENERGY CONSERVATION

Under a grant from the Office of Energy Resources of Massachusetts, the STS Program operates a statewide information and referral service (the "Energy Phone") for homeowners with questions about conservation, alternative energy sources, and related matters. This course provides training for students who wish to work for the Energy Phone on a 9-12-hour per week basis, at the minimum wage rate. The first several weeks cover the conceptual basis for energy conservation and the fundamentals of insulation, heating systems, weatherization, and so on. Afterward, students learn how to conduct a home energy audit, attend occasional seminars, and prepare a research paper on some aspect of energy conservation. Some college-level background in basic physical science is desirable, and permission of the instructor is required. Offered for variable credit.
Mr. Ducsik

ENVIRONMENT-RELATED COURSES

013 FIELD STUDIES OF ENVIRONMENTAL ISSUES

Explore the Worcester region and its environmental issues, learn to do field research, to analyze findings, to present results to others. Limited to freshmen and sophomores willing to work together in small groups. Also listed for credit as Geography 013, Environmental Affairs 013.
Mr. Kates

142 ENVIRONMENTAL CHEMISTRY

Refer to course description under Chemistry 142.
Mr. Jones

155 THE ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT

Refer to course description under Economics 155.
Mr. Shakow

239 BIOLOGICAL AND HEALTH ASPECTS OF WATER POLLUTION

Refer to course description under Biology 239. Also listed for credit as Environmental Affairs 239.
Mr. Reynolds

275 CITIZEN PARTICIPATION IN PLANNING

Erosion of public confidence in the institutions and professionals charged with managing societal affairs is commonplace, and has brought proposals that decision-making be conducted more openly and will full opportunity for citizen participation. This course explores a range of issues surrounding this concept, with particular reference to situations involving its application in planning contexts (e.g. urban redevelopment, power plant siting, environmental management). Major theories regarding the nature and forms of participation will be examined and contemporary experience

with participatory programs will be reviewed. Also listed for credit as Geography 275, Environmental Affairs 275, and Government 275.
Mr. Ducsik, Mr. Kasperson

HAZARD-RELATED COURSES

226 TECHNOLOGICAL RISK ASSESSMENT AND HAZARD MANAGEMENT

For advanced students, this is an introduction to the theory and methods of risk assessment and management of technological hazards. Case study material is drawn from concurrent research including hazards of consumer products, energy production, toxic chemicals, and transportation. Also listed for credit as Environmental Affairs 226 and Geography 226.
Mr. Kates

238 ISSUES IN PUBLIC HEALTH

An introduction to epidemiological concepts and methods associated with the detection, surveillance, and control of infectious diseases and other environmental hazards. Case studies illustrating approaches and problems encountered during risk assessment and policy making in public health matters will include selected acute food and water-borne outbreaks; chronic occupational and environmental exposures; screening and immunization programs; and control and/or eradication programs. The course is offered for advanced undergraduates and beginning graduate students, and entering students should have completed introductory courses in biology, chemistry and at least one course in microbiology, or immunology, *or* biochemistry, *or* physiology, *or* statistics. Also listed for credit as Biology 238 and Environmental Affairs 238.
Mr. Reynolds

248 HAZARDS OF THE WORKPLACE

Refer to course description under Geography 248.
Mr. Kasperson

278 SEMINAR ON NUCLEAR POWER

This is a survey of major technical and social issues relevant to the evaluation of nuclear power. After an historical introduction, the course will deal with salient aspects of nuclear technology, the prospects for the breeder, and the special economic problems of capital intensive, long-term investments. Special attention will be given to the problems of nuclear power regulation, including risk assessment, safety policies, siting policy, and assessment of public attitudes in the wake of the Three Mile Island incident.
Mr. Hohenemser

SPECIAL PROJECT COURSES

270 SPECIAL TOPICS IN SCIENCE, TECHNOLOGY AND SOCIETY

Students will do independent readings and/or experimental work. Offered for variable credit.
Staff

271 HONORS IN SCIENCE, TECHNOLOGY AND SOCIETY
Students will do supervised research leading to an undergraduate thesis. Offered for variable credit.
Staff

RELATED COURSES IN OTHER DEPARTMENTS
All Environmental Affairs Program Courses at the 200 level

GEOGRAPHY 157 INTRODUCTION TO RESOURCE MANAGEMENT
Ms. Johnson

Geography 210 SOCIO-ENVIRONMENTAL IMPACT ANALYSIS
Ms. Johnson

Geography 251 PROBLEMS IN ENVIRONMENTAL MANAGEMENT
Mr. Kasperson

Geography 231 POLITICS AND THE ENVIRONMENT
Mr. Kasperson

Chemistry 010 CHEMISTRY FOR THE CONCERNED CITIZEN
Mr. Brenner

Chemistry 224 ENERGY AND COAL
Mr. Wen

Biology 117 PRINCIPLES OF ECOLOGY
Mr. Livdahl

Biology 217 MARINE BIOLOGY
Mr. Johansen

Biology 216 FIELD ECOLOGY
Mr. Livdahl

Screen Studies

See Department of Visual and Performing Arts.

Sociology and Social Anthropology

DEPARTMENT FACULTY

Sidney M. Peck, Ph.D., Associate Professor of Sociology, Department Chair
Stanford N. Gerber, Ph.D., Associate Professor of Social Anthropology
Robert J. Ross, Ph.D., Associate Professor of Sociology
Edward E. Sampson, Ph.D., Professor of Sociology, Adjunct Professor of Psychology
Elizabeth A. Stanko, Ph.D., Assistant Professor of Sociology

UNDERGRADUATE PROGRAM

The Department of Sociology and Social Anthropology has three major foci: *Social Anthropology*—courses that treat the concept of culture and cultural patterns in comparative fashion; *Social Psychology*—coursesthat focus on interaction between individuals and groups; and *Structural Sociology*—courses that deal with large scale structure and process at the societal level. For convenience, social anthropology courses are designated with an asterisk (*). While students may emphasize one or another of these areas in their course work, the department does not offer a formal concentration in any of them.

The departmental major consists of nine courses within the department, and, usually, five additional courses in other departments selected from a set of focused options; the selection will be developed through close consultation with a major adviser. The nine departmental courses are to be divided as follows:

I) At least one introductory course chosen from:
   Introduction to Sociology
   Introduction to Social Psychology
   Introduction to Social Anthropology
II) At least one advanced theory course chosen from:
   Sociological Theory: Classical
   Sociological Theory: Contemporary
   Social Psychological Theories
   Topics in Sociological Theory
III) At least one methods course chosen from:
   The Social Research Process
   Research Methods in Social Psychology
   Field Methods
   (From time to time, other methods courses will be offered and may be substituted for the above listing; courses selected from the methods offerings in other departments may, with the consent of the student's adviser, be substituted for a methods course within sociology; the student can meet the methods requirement, but not the course requirement [i.e. nine courses in sociology] by this option.)
IV) At least two courses chosen from the following:
   Urban Sociology
   Political Sociology
   Social Stratification
   Industrial Sociology
   Deviance

Criminology
Social Movements
Race and Ethnic Relations
Ethnology of the Caribbean
The Family
Sociology of Sex Roles
(From time to time, other courses will be offered and may be substituted for the above listing.)

V) In their senior year or, in selected cases, before that, and in close consultation with their adviser, majors will select one of the following options:

Option A: *Thesis:* This is the equivalent of four full courses in sociology; it is designed for selected students who wish to devote approximately 50 percent of their senior year to a major research problem.

Option B: *Internship:* This is the equivalent of from two to four full courses; it is designed for selected students who seek supervised field training in community or organizational settings.

Option C: *Senior Seminar:* This is the equivalent of two full courses and consists of a year-long seminar devoted to an examination of major themes and issues in sociology.

Option D: *Course Work:* For those students who do not choose any of the other options, an additional four sociology courses are required; these may include core courses, directed readings, and special projects.

VI) *Related Courses*

In close consultation with their advisers, students will plan a program of additional courses that center on a coherent intellectual focus, which complements the substantive knowledge of and conceptual skills of the department curriculum. Such foci will, most usually, consist of courses taken in another social science department, but they may be interdepartmental, e.g., ''urban focus'' could include courses in government, geography, history, and/ or economics.

The general expectation of the department is that such related course work will comprise five courses. This expectation may be higher for those who choose foci that entail taking elementary courses in preparation or as prerequisites. Thus, someone with an area study interest in Latin American culture would need elementary language courses in addition to five courses in culture, history, and politics.

GRADUATE PROGRAM

At the present time, the department is not accepting students for the master of arts degree.

COURSES

100 INTRODUCTION TO SOCIOLOGY

This is a general introductory course to the discipline of Sociology, intended mainly for students who wish to gain a broad, general overview of the field, its areas of study, methods on inquiry, and conceptions and analyses of society. The central objective of the course is to encourage students to think and feel sociologically.
Mr. Ross, Mr. Peck

105 INTRODUCTION TO SOCIAL PSYCHOLOGY

An examination of the relationship between the individual and the social system. The theories, methods, and findings of social psychology will be examined as they illuminate the major, enduring themes that confront human beings individually and collectively: e.g., the bases of knowledge and understanding; the individual and authority; freedom, reason, and responsibility; development, identity, and individuality; exchange and justice. Also listed for credit as Psychology 170.
Mr. Sampson, Staff

110 INTRODUCTION TO WOMEN'S STUDIES

An overview of the problems, issues, and research on sex role dichotomization and the biosocial systems that produce and maintain them. While particular emphasis will focus on material from sociology and other relevant social sciences, topics from the humanities and the biological sciences also will be considered.
Staff

120 INTRODUCTION TO SOCIAL ANTHROPOLOGY*

An analysis of non-Western societies with a focus on social structures. The emphasis will be on the development of a comparative perspective and a nonethnocentric perspective on our own culture. Theoretical and topical interests differ with instructor.
Mr. Gerber

170 THE SOCIAL RESEARCH PROCESS

This course will provide a general introductory survey of various methods employed in social scientific inquiry including, for example, the sample survey, interviewing, questionnaire approaches, experimental methods, etc. The course will examine general issues involved in research design and research evaluation as well as issues involved in selecting methods to suit particular research problems and questions.
Ms. Stanko, Staff

200 DIRECTED READINGS IN SOCIOLOGY AND SOCIAL ANTHROPOLOGY

Offered for variable credit.
Staff

201 SPECIAL PROJECTS IN SOCIOLOGY AND SOCIAL ANTHROPOLOGY

Offered for variable credit.
Staff

202 WORCESTER COMMUNITY STUDY

The Worcester Community Study is a research seminar oriented to descriptive evaluation and action research on any facet of the social structure of the Worcester community. Students who wish to add a research dimension to their special projects, internships, and practica are encouraged to participate in this seminar. Participants in the seminar will be expected to help coordinate small research teams engaged in a long-term study of the Worcester community.
Mr. Peck

210 WOMEN AND CRIME

In traditional criminology women's role in the criminal justice system is

seldom a topic of focus. This course will concentrate on the role of women, as criminal offenders and as the primary targets of male offenders. We will explore the traditional felony crimes, such as murder, robbery, victimless crimes, prostitution; treatment of women in courts and prison; victimology, such as, rape and battered wives; and women workers within the criminal justice system, such as policewomen, etc.
Ms. Stanko

215 ETHNOMETHODOLOGY

Ethnomethodology, both theory and method, studies the actor's everyday world. This course's objective is to familiarize the student with the phenomena in everyday life. In addition, students will explore the use of video and taped conversation for purposes of analysis.
Ms. Stanko

220 ETHNOLOGY AND POLITICS OF THE CARIBBEAN*

This course will focus upon various problems in the analysis of the Caribbean culture area. (See also Government 266.)
Mr. Gerber, Mr. Rasmussen

225 SOCIOLOGY OF SEX ROLES

The focus of the course is on the sex role socialization process. This is considered in relation to social class and caste, cultural variables, institutions, and political and psychological effects and implications.
Staff

239 SOCIAL GERONTOLOGY

This course will consider the situation of the aged in human society. Specific attention will be devoted to the social role of the aged in the U.S. The way in which changes in the social structure affect the aged will require examination of several related issues confronting the elderly such as employment, retirement, income, housing, health care, education, sexuality, separation, dying, and death. A variety of social programs designed for the aged will be critically evaluated.
Staff

243 POLITICAL SOCIOLOGY

Politics may, for certain purposes, be seen as the result of structures of sentiment and power from which particular policies and institutions emerge. The course examines, in theory and research, class and political behavior, the political economy of power, sources of conflict and stability in modern society, and social movements.
Mr. Ross

244 RACE AND ETHNIC RELATIONS

The purpose of this seminar is to enable participants to begin to develop a theoretical framework for analyzing problems of racism and to conceptualize solutions to the problems consistent with the analysis.
Mr. Gerber

245 SEMINAR IN THEORETICAL MODELS IN SOCIAL ACTION

A critical evaluation of anthropological, sociological, and literary sources and their application to contemporary social problems.
Mr. Gerber

246 SOCIAL PLANNING AND SOCIAL POLICY

This seminar will be concerned with the analysis of policy issues related to urban social problems. The seminar will address itself to three major objectives: (1) how social policy is formulated, (2) how social problems are analyzed from the perspective of the policy makers, (3) how social policy addresses problems of social importance in urban society. Students will be introduced to the literature of the field and will be given opportunities to analyze specific social problems.
Mr. Ross

247 URBAN SOCIOLOGY

The ethnic and other communities of the big cities will be examined through the literature of historical and community studies; these materials will provide the basis for interpreting urbanism and the politics of the recent period. The political machines, the functions of social policy, and the problems of our big cities are some of the broader issues to be discussed.
Mr. Ross

249 IMAGES OF WOMEN IN FILM/SCREEN AND SOCIETY

Thematic explorations of the ways in which the screen media have reflected/affected their contemporary society. Content varies each time the course is taught, and it may be taken more than once. This year, a study will be made of "the Hollywood heroine." Lectures, screenings, and discussion seminars. Sociology majors may find it helpful to have as background courses Screen Studies 101 and 103. Also listed for credit as Screen Studies 211.
Ms. Stanko, Mr. Hodgkinson

250 CRIMINOLOGY

The course constitutes a survey of 1) whom the criminal justice system processes, 2) how this is done, and 3) what social science has learned about the social nature of crime.
Ms. Stanko

255 THE FAMILY

Critical, historical, and feminist perspectives on the institutions of marriage and the family. The seminar will consider comparative, historical, and theological analyses of the social role of women vis-à-vis the role relationships inherent in marital institutions.
Staff

256 SOCIAL STRATIFICATION

An analysis of the major dimensions of social stratification in contemporary society. Economic class, social status, power, class consciousness, social mobility, and the consequences of class difference are studied.
Mr. Peck

260 SOCIAL PSYCHOLOGY OF IDENTITY

In this course we examine the concept of self or identity as it develops within the social world. Identity will be approached from a life span-developmental perspective, a comparative perspective, and a social psychological perspective. The course will attempt to join a theoretical with an experiential process of teaching-and-learning. Prerequisite: Introduction to

Social Psychology. Also listed for credit as Education 259 and Psychology 255.
Mr. Sampson

261 CRIMINAL JUSTICE IN AMERICA

The criminal justice system is a complex set of roles and perspectives, traditionally viewed as an integrated unit—processing individuals arrested for criminal offenses. This course is designed to view the criminal justice system as a topic for inquiry into social relations of institutions, which are studied as isolated agencies (i.e., law enforcement, court process, corrections) as well as an "integrated" system as a whole.
Ms. Stanko

263 DEVIANCE

This course has two fundamental objectives: (1) to introduce the student to the literature, research, and conceptual problems in the field of deviance; and (2) to examine conceptual frameworks out of which contemporary definitions of deviance emerge.
Ms. Stanko, Staff

265 SOCIAL MOVEMENTS

This course will discuss the general characteristics of modern social movements with the New Left and other protests of the sixties as extended case examples. Problems of recruitment, organization, and ideology will be analyzed. The form of the course will depend on the size of registration.
Mr. Ross

266 ECONOMIC ANTHROPOLOGY

A comparative study of tribal and state economic organizations, focusing on the ways in which production, distribution, and consumption are institutionalized cross-culturally. Topics to be considered include the nature and transformation of work, the notion of surplus, modes of exchange and distribution, and the relationship between economic structure and societal motivation.
Ms. Sacks

267 POLITICAL ANTHROPOLOGY*

This course includes an examination of varying levels of social-political culture. Cultures viewed will include hunters and gatherers, contemporary Russia, and selected African societies. A certain amount of attention will be given to Caribbean political systems and movements.
Mr. Gerber

270 RESEARCH METHODS IN SOCIAL PSYCHOLOGY

This course builds upon a familiarity with the field of social psychology and some of its research methods and focuses on team conducted research studies of topics of special interest to the seminar members. Prerequisite: Introductory Social Psychology and some prior knowledge of research methodology. Also listed for credit as Psychology 229.
Mr. Sampson

271 FIELD METHODS: CONCEPTS AND ISSUES IN ANTHROPOLOGY*

This course will deal with theoretical issues in the conduct of

anthropological field work, including an intensive survey of the literature, problems and prospects, and instruction in use of tape recording and camera equipment involved in field work. It will include on-site experience, where students will obtain and conduct a limited field research project.
Mr. Gerber

276 DEVELOPMENTAL AND APPLIED ANTHROPOLOGY*

Anthropology, because of its emphasis on a holistic approach of culture, coupled with participant-observation field experience, is uniquely suited to the analysis and direction of cultural change. The purpose of this course is to develop an anthropological perspective with respect to problems of direction, cultural change, intervention, and ''modernization.'' Areas to be discussed include problems of ''applied'' theory, unintended consequences of institutional change, and psychological and cultural impediments to modernization. Critical attention will be paid to the ethnocentrism of ''development'' and modernization.
Mr. Gerber

282 INDUSTRIAL SOCIOLOGY

This course is concerned with the study of social relations in the industrial setting. The course will cover the research tradition beginning with the human relations school and extending through the sociology of work and occupations. A special focus of the course will be on workers' organizations and the sociology of labor.
Mr. Peck

287 ADVANCED TOPICS IN SOCIAL PSYCHOLOGY: TOWARDS A CRITICAL SOCIAL PSYCHOLOGY

This seminar examines alternative perspectives to the dominant points of view (theories and methods) in social, personality, and developmental psychology. The emphasis will be on the writings of the Frankfort School, and on more ''contextualized'' approaches within the American tradition itself. Our intention is to examine these various perspectives and their implications for the study and practice of social (and related) psychology. Permission of instructor required. Also listed for credit as Psychology 284.
Mr. Sampson

288 SEMINAR IN POLITICAL ECONOMY

The seminar will introduce the Marxian mode of analysis and then apply it to some major themes in political sociology. It will use the classical writings of Marx and Engels, but will include work being done by contemporary Marxists, neo-Marxists and their critics. Some of the topics, beyond the introductory material, to be addressed are: class structures and class consciousness, the state in capitalist society, the political economy of the cities. Students should be prepared to make class presentations and write papers.
Mr. Ross

290 SOCIOLOGICAL THEORY: CLASSICAL

Beginning with the European writings of the early sixteenth century and extending to the expression of social theory at the turn of the twentieth century, the course focuses on the way in which certain social themes dealing with human relationships were treated by the classic works of

outstanding European social philosophers and theoreticians. These social themes refer to issues of value consensus and social conflict, established power and rebellious disorder, the social person and the alienated human. Oriented to a sociology of knowledge perspective, the range of ideas, beginning with Machiavelli and More and ending with Weber and Simmel, are considered in the context of the history and social structure of national capitalism as it emerged in the specific settings of Italy, England, France and Germany.
Mr. Peck

291 SOCIOLOGICAL THEORY: CONTEMPORARY

Social developments in the United States during the post World War II epoch have given rise to a variety of theoretical views in the field of sociology. Diversity of approach and fragmentation of theoretical stance will be related to significant changes in social structure and political economy of the United States during the past three decades. The relationship between social theory and political ideology will be considered throughout.
Mr. Peck, Staff

292 SOCIAL PSYCHOLOGICAL THEORIES

This course examines some of the major theoretical contributions to social psychology, including Lewin, Mead, Freud and others and selected representatives of the critical tradition, including Adorno, Horkheimer and Marcuse. Prerequisite: Introduction to Social Psychology. Also listed for credit as Psychology 273.
Mr. Sampson

294 TOPICS IN SOCIOLOGICAL THEORY: STUDIES IN MARXISM

This seminar will examine some of the basic themes of Marxism through close study of a major primary source, supplemented with class presentations and secondary reading. The Marxian theoretical and philosophic origins will be explored, and the political economy of Marxism will be introduced.
Mr. Ross, Mr. Peck

295 GROUPS AND FAMILY PROCESSES

This course combines theoretical an experiential modes of learning designed to familiarize the student with the skills and techniques involved in group work with families and other small groups. Permission of instructor required. Also listed for credit as Education 295 and Psychology 253.
Ms. Sampson

296 ADVANCED TOPICS IN CRIMINAL JUSTICE

This course will be concerned with an in-depth view of the current issues in the field of criminal justice. Students will be responsible for developing a project, to include on-site experience.
Ms. Stanko

297 TOPICS IN SOCIOLOGICAL THEORY: THE PERSON AND THE SYSTEM

Everywhere men and women strive for love and personal acceptance, but they receive these only at certain places and times. This course is primarily

an analysis of theories of rational efficiency and communal or primary needs in modern society. It compares the orthodox theories of Weber and Parsons with the Marxist paradigm of alienation.
Mr. Ross

298 SENIOR SEMINAR IN SOCIOLOGY
This course consists of a year-long seminar devoted to the examination of major themes and issues in sociology. It is the equivalent of two full courses.
Staff

299 THESIS SEMINAR
The course combines seminar with independent study on selected topics and is intended for senior sociology majors. Each member of the sociology faculty offers a set of topics and thesis issues; students should sign up with the faculty member whose areas of interests are most suited to their own. Emphasis in the course is upon independent work undertaken with faculty guidance and supervision. It is possible to take this as a year-long course that results in the submission of a thesis, thereby making selected students eligible to be considered for departmental honors in sociology. Students are awarded four full course credits.
Staff

299.9 INTERNSHIP IN SOCIOLOGY
The course consists of supervised field training in community and organized settings. This is the equivalent of from two to four full courses in sociology. Variable credit.
Staff

Spanish

See Department of Foreign Languages and Literatures.

Theater Arts

See Department of Visual and Performing Arts.

Visual and Performing Arts

Albert A. Anderson, Ph.D., Associate Professor of Philosophy, Department Chair

The Department of Visual and Performing Arts offers programs in art, music, screen studies, and theater arts. Majors or concentrations are offered in each of these areas, and opportunities for student-designed majors in two or more areas are available. Additional courses are offered in the area of Aesthetics. Students in other disciplines are invited to participate in the department's courses and programs, or to consider developing the equivalent of a minor in one of the arts. Throughout the year the department sponsors numerous musical, dance, and theatrical performances, film showings, and art exhibitions.

AESTHETICS

Courses in aesthetics offer cross-disciplinary study of the arts designed to foster an understanding of what is common to the various modes of artistic creation as well as the characteristics which separate them; to reflect upon the nature and presuppositions of critical and historical analysis of the arts; and to investigate the relationship between the arts and other aspects of human culture, such as politics, religion, science, and philosophy.

149 INTRODUCTION TO AESTHETICS

Examination of representative theories of the arts, aesthetic experience, creativity, and critical evaluation of the arts. Specific examples of poetic, musical, and visual art will be examined from the standpoint of thinkers such as Aristotle, Nietzsche, Bell, Berger, Dewey, Langer, and Heidegger. Also listed for credit as Comparative Literature 170, Music 170, and Philosophy 149.
Mr. Anderson

205 ADVANCED AESTHETICS

The course offers an examination of aesthetic concepts in the context of concrete artistic phenomena. Topics will alternate among architecture, literature, music, painting, theater, and the media. Emphasis will be placed upon explication of concepts from individual works of art and upon the consideration of theories of the specific arts. Also listed for credit as Philosophy 205.
Mr. Anderson

ART

PROGRAM FACULTY

Donald W. Krueger, M.F.A., Associate Professor of Art, Program Director
Samuel P. Cowardin III, Ph.D., Associate Professor of Art History
Bonnie L. Grad, Ph.D., Assistant Professor of Art History
Charles H. Slatkin, M.F.A., Lecturer, Department of Visual and Performing Arts.

UNDERGRADUATE PROGRAM

Courses in studio art and art history provide opportunities for students to develop understanding of and sensitivity to the visual arts of the past and present, acquire resources for visual thinking and communication, and engage in personal creative expression. Students may major in art history or studio art, including a program leading to the bachelor of fine arts degree, or they may combine studio and history or use either as a part of a double or self-designed major. Both studio and history courses also can serve as a valuable part of education in the humanities or the social or physical sciences.

Art history and on-campus studio courses are available to nonmajors, special students, and students with combined or self-designed majors. Certain courses at the Worcester Craft Center also are open to nonmajors.

Throughout the year, exhibitions of contemporary art and the work of Clark students are presented in the Little Center Gallery. The on-campus Craft Studio offers opportunities for extracurricular involvement in art and craft activities.

The Art History Major

The art history major can serve as a meaningful humanistic focus for liberal arts education for students who appreciate art and are interested in its social, cultural, and historic ramifications. It can also provide a foundation for graduate study for highly motivated students interested in teaching, museum and gallery work, arts conservation, or arts management. The major offers opportunity for concentration in areas such as Renaissance and modern art history and permits individual study in areas of special interest.

Specific requirements for the art history major are continually reviewed by the faculty. At present, admission to the major requires at least a grade of B in the two-semester Art 11 foundation (or equivalent courses or superior advanced placement performance) and approval of the program faculty. Students must then complete: four art history courses in a single area (e.g., Renaissance, modern); four art history courses outside this area; four courses outside art, related to the area of concentration; three studio courses; and the senior project in art history. In the case of double majors, each of the four groups is reduced by one course, for a total of twelve.

Requirements for the combined art history/studio major may be obtained from the program faculty or director.

The collection and library of the Worcester Art Museum are available to Clark art students; on occasion, internships may be arranged at the museum.

(Note: Offerings in modern art history may change due to program and staff adjustments.)

The Studio Art Major

The studio art major programs are designed to meet a number of student needs and interests: the satisfaction of personal curiosity about and interest in art; significant involvement in the creative process; or preparation for graduate study and/or a professional career in art, design, education, or art therapy. Two degree programs are offered:

The B.F.A. Program

The bachelor of fine arts degree program is for students with a strong interest in and commitment to art as a career. Admission to the program is highly selective and students are expected to maintain a professional level in their studio work, as well as a high academic average. Continuation in the B.F.A. program is determined by faculty and student reviews at the end of the first and second years. A strong advising program assists students in curriculum planning, in identifying areas of major interest, and in preparation for graduate school or career. The B.F.A., which meets the National Association of Schools of Art studio credit hour requirements, includes: a four course foundation sequence, six "exploratory" studio courses, six studio courses in the student's major area of interest, and two senior project or studio thesis courses. Sixteen liberal arts courses, including art history and related courses from the Department of Visual and Performing Arts, are required. B.F.A. students will need an additional modular term or summer session to complete the 34 course requirement. Transfer students may need additional courses.

The B.A. Program

The bachelor of arts degree program is for students who see studio art as a part of liberal education or who may be undecided about professional interest and commitment. It is a much more flexible program than the B.F.A. and can accommodate interest in art education, art therapy, film and video, or individually designed or double majors. The B.A. program requirements vary depending on the student's area of interest. In general, a minimum of 10 studio courses, including a senior project, two art history courses, and two departmental courses outside the art area is required. Specific curriculum guidelines may be had from the program director. Under certain circumstances, students may transfer to the B.F.A. program at the end of the first or, rarely, the second year.

Many of the studio courses for both the B.A. and B.F.A. majors are taken at the School of the Worcester Art Museum, a professional school, which provides the Clark student with significant exposure to professional art and artists. Admission to both studio majors is by portfolio evaluation and permission of the program director.

COURSES

11 INTRODUCTION TO WESTERN ART I

Ideally, the first half of a two-semester sequence, this course covers classical, medieval, and Renaissance art. The first several weeks are devoted to an examination of basic elements in the visual arts, and to certain fundamental matters of terminology and approach. Selected works are then discussed as exemplars of style and artistic quality in the context of the leading ideas of their respective eras. Students are encouraged to observe original works in local museums.
Mr. Cowardin

11 INTRODUCTION TO WESTERN ART II

This course surveys the history of Western art from sixteenth century Mannerism to contemporary art. In general, emphasis will be placed on the analysis of style in relation to the specific historical and social environment from which it emerges as well as on the formal development of individual artists. Attention will be given to the major artists in the history of art, such as Rembrandt, Goya, Picasso, Stieglitz, and Rauschenberg. The class will take two field trips to the Worcester Art Museum.
Staff

12 SURVEY OF PAINTING

A general introduction to the art of painting, covering a wide range of examples from East and West. The approach is historical only in that the material is taken up more or less in historical sequence, and the stylistic development is viewed against the background of changing ideas. But

matters of technique, design, and expression receive due attention.
Mr. Cowardin

77 INTERNSHIP
Offered for variable credit.
Staff

87 SPECIAL PROJECTS IN ART HISTORY
Staff

88 DIRECTED READINGS IN ART HISTORY
Staff

89 SPECIAL PROJECTS IN VISUAL ARTS
This is an independent studio art study. Offered for variable credit.
Mr. Krueger, Staff

98 SENIOR PROJECT IN STUDIO ART
Mr. Krueger, Staff

99 SENIOR PROJECT IN ART HISTORY
This is individual research culminating in a major paper. Periodic meetings with the staff to evaluate and discuss progress. Required of all majors in art history.
Staff

106 CRITICISM
Designed to develop the student's critical faculties, the course emphasizes critical writing on the arts in New England. The class will visit several New England galleries and museums; following these trips we will examine the various issues related to the specific art form on exhibition. Prints, paintings, photography, and sculpture will all be considered. Assignments will involve reading contemporary art criticism and writing critical reviews of artists' work. Prerequisite: permission of instructor.
Ms. Grad

115 MEDIEVAL ART
Examines the development of Christian art from the end of the ancient world to the dawn of the Renaissance. Certain themes receive special emphasis; the relationship of medieval art to the classical tradition, the impact of the art of the migrations and contacts with the East, the structural development in architecture and its expressive import are a few such themes. If enrollment permits, class reports on pertinent topics will be built into the course. Prerequisite: one course in art history.
Mr. Cowardin

120 ITALIAN RENAISSANCE ART: FIFTEENTH CENTURY
Concerns art in the context of developing humanism and rationalism, mainly in Florence, but with excursions into northern Italy. The aim is to delineate the character of early Renaissance art and to distinguish its principal stylistic currents as they move toward confluence in the High Renaissance. Particular attention is given to the ideas of Alberti and some of the intellectuals in the circle of the Medici. Architecture, sculpture, and painting receive approximately equal emphasis.
Mr. Cowardin

121 ITALIAN RENAISSANCE ART: SIXTEENTH CENTURY

The great figures of the High Renaissance art in Florence and Rome are the focus of the first part of the course. It will try to define, through readings and discussion, the special aesthetic qualities of this particular "classic moment," seen against the political and intellectual background. The course also must confront the difficult questions relating to the evolution of Mannerism, as well as the definition of this phenomenon. Finally, the scene will shift briefly to Venice. Class participation is encouraged.
Mr. Cowardin

122 MICHELANGELO AND THE HIGH RENAISSANCE

This course concentrates on Michelangelo's work in architecture, sculpture, and painting, taking into account personal, religious, intellectual, and political influences on his life. His style will be viewed in relation to the Renaissance background as well as the Mannerist trends of the sixteenth century.
Mr. Cowardin

124 NORTHERN RENAISSANCE PAINTING

Concentrates on painting in Flanders from Van Eyck to Bruegel. Style, technique, and expression in representative works will be viewed in relation to their own background and to contemporary work in Italy. A secondary focus will be on the impact of Italian influence upon the art of France, Germany, and the Netherlands in the sixteenth century.
Mr. Cowardin

140 MODERN ART: NINETEENTH CENTURY

A survey of the revolutionary movements in European art from neoclassicism to postimpressionism, with special emphasis on the development of the avant-garde. Both the formal characteristics of styles and the cultural and social context from which they emerged will be examined. Attention will be paid to the reciprocal relationship between the visual arts: between painting and printmaking throughout the century and painting and photography after 1845.
Ms. Grad

141 MODERN ART: TWENTIETH CENTURY

Surveys the major European art movements from the turn of the century to World War II. Much attention is given to the various art movements of the decade and a half before World War I, in which all traditional notions of representation were overthrown for either abstract and nonobjective or highly expressive forms of art. One project, the creation of an original work of art, is designed to introduce the student to the formal and critical problems of the modern artist.
Ms. Grad

142 MODERNISM

A study of the modern imagination as it developed in the art of Europeans and Americans from the turn of the century to World War II. Two major issues, expressed as polarities in content and form, will be explored in class lectures and "modernist workshops"—on the one hand, the incorporation of the non-art object (newspapers, playing cards, hatracks) into the art object, as in Picasso's and Braque's cubist collages and Duchamp's readymades; on the other, the elimination of reference to the object, as in

the abstract, nonrepresentational painting of Kandinsky, Malevich, and Mondrian.
Ms. Grad

143 ART SINCE 1945

A survey of the major movements of contemporary American and European art, including abstract expressionism, environments and happenings, pop art, minimalism, earth art, and the new realism. The increasing importance of the commercial environment, popular culture, and technology will be explored as a major theme in the art of the sixties and seventies. Each student will assume the separate roles of artist, critic, and art historian—creating an object, criticizing an exhibit or work of art, and formally analyzing a museum work—as a means of coming to terms with relevant formal and critical issues.
Ms. Grad

144 IMPRESSIONISM

Under Napoleon III (1851–1870), Paris was physically transformed into a modern city of tree-lined, spacious boulevards, parks, landscaped squares, and public gardens. Impressionists painted not only the countryside and seaside resorts, but also the beauty and richness of this urban environment. This course explores in depth the styles of Manet, Monet, Renoir, Degas, Sisley, and Pissarro, and examines the formal and coloristic characteristics of these artists as well as the particular social, economic, and political context from which urban and rural impressionism emerged. Prerequisite: Art 140 is recommended.
Ms. Grad

147 ART IN SIXTIES AMERICA

Examines the rich and heterogeneous developments in painting, sculpture, architecture, and photography in sixties America, when the pendulum swings between an abstract art of pure form and one that incorporates the real world, bridging the gap between art and life. On the one hand, Noland makes a painting consisting simply of colored stripes; on the other, Rauschenberg plants a stuffed angora goat on a canvas. Philip Johnson creates monumental buildings that are "sculptures" in themselves, unrelated to their environment; Robert Venturi incorporates vernacular elements in the design to create contextural architecture that responds to its environment. The course will explore the diverse approaches of artists and architects and attempt to deal with questions about the nature of creativity and the function of art in this decade.
Ms. Grad

148 LANDSCAPE

A study of the changing vision of nature in Western culture as it is expressed in painting and landscape architecture from the Renaissance to the present. The relationship between landscape art and man's changing relationship to the land, due to social, economic, and cultural factors, will be explored in depth. Special attention will be paid to the seventeenth, nineteenth, and twentieth centuries—periods in which the greatest transformations in the landscape occur. Readings in cultural geography and literature will supplement art historical writings.
Ms. Grad

150 INTRODUCTION TO ORIENTAL ART: ANCIENT NEAR EAST AND INDIA

A preliminary look at the Near East is designed to acquaint the student with the styles and iconography of ancient Mesopotamian and Iranian art as a background for developments in India and central Asia. The major part of the course deals with Indian art from prehistoric times through the period of the Moslem dynasties, and with the spread of Indian culture into Indo-China and Indonesia. Monuments of Buddhist and Hindu art are studied and discussed in the light of the faiths which inspired them. The philosophy, mythology, and iconography of these faiths are the subjects of background readings intended to inform the discussion. Aside from its intrinsic value, this material is basic to further study of Buddhist art in China and Japan.
Mr. Cowardin

151 INTRODUCTION TO ORIENTAL ART: CHINA AND JAPAN

The greater part of the course (about two thirds) is devoted to the art of China from the beginnings through the Yuan Dynasty. As an introduction, the course does not pretend to be complete, but singles out for study certain periods and classes of objects, such as Shang and Chou bronzes, Buddhist sculpture, and Sung paintings, at the expense of others, such as ceramics and later paintings. The objective is to arouse interest and develop sensitivity to different artistic points of view and aesthetic values, while laying the foundations for further study. The same approach is carried over to Japan in the remainder of the course, where emphasis is placed on Buddhist sculpture, narrative and landscape scroll paintings, and color woodblock prints.
Mr. Cowardin

160 ARCHITECTURE

An introduction to architecture as an art form, emphasizing style and expression. The stylistic evolution will be followed from ancient Greece to the present day, with special attention to the structural and expressive potential of material, spatial and functional organization, and environmental factors. Buildings will be studied in the context of contemporary thought and other art forms.
Mr. Cowardin

164 HISTORY OF PHOTOGRAPHY

From its invention in 1839 to the present, photography has been explored as a versatile medium in numerous fields. It has been used for historical documentation, as in the Civil War photographs of Matthew Brady; for geological and geographical surveying, as in the western landscapes of William Henry Jackson; for social documentation, as in the work of Lewis Hine and Dorothea Lange; for commercial purposes, as in fashion photography and picture postcards; and as purely fine art, as in the work of Alfred Stieglitz. This course examines the history of photography as a social document and as fine art within this interdisciplinary context. It further explores the impact of photography on contemporary popular culture, as an agent that has radically transformed our notions of ourselves and society.
Ms. Grad

170 VISUAL DESIGN I—TWO DIMENSIONAL FORM AND COLOR

An on-campus studio course designed to introduce the student to the nature of visual language and the creative process and to develop abilities for original creative thought and action. Basic two-dimensional studio problems in organization, color relationships, form, space, design, and visual communication are presented. Work in addition to the scheduled studio hours will be required. Open to nonmajors. Enrollment is limited. Prerequisite: permission of instructor.

Mr. Krueger

171 VISUAL DESIGN II—SPACE AND THREE DIMENSIONS

A continuation of 170, to include the study of depth and plastic illusion and basic three-dimensional structural principles and forms. 170 is not a prerequisite, but is recommended. Open to nonmajors. Enrollment limited. Prerequisite: permission of instructor.

Mr. Krueger

172 VISUAL STUDIES

This title is a general designation for a group of one-semester studio courses of varying content designed to encourage the development of expressive and communicative visual arts skills. Opportunity also is provided for individual study in traditional, contemporary, and experimental forms and materials. Specific semester topics include: drawing, painting, graphic design, advanced photography, and others to be determined by students' special interests and skills; Art 170 and 171 or the equivalent are recommended as preparation. Open to nonmajors. Enrollment limited. Prerequisite: permission of instructor and in some cases a portfolio. May be repeated for additional credit.

Mr. Krueger

173 VISUAL STUDIES

A continuation of 172. May be repeated for additional credit. Enrollment is limited. Prerequisite: permission of instructor.

Mr. Krueger, Staff

174 CONTEMPORARY DIRECTIONS

An on-campus studio course, with discussions and museum visits, which will be concerned with a practical, experiential examination of current movements, directions, styles, and attitudes in the visual arts. Specific topics include: the Avant-garde, American Modes, Uses of the Figure, and others. Students will be expected to study in depth, through their own studio work, a specific contemporary style or to experiment with a number of modes. Prerequisite: permission of instructor. May be repeated for additional credit.

Mr. Krueger

178 PHOTOGRAPHIC WORKSHOP—COLOR

This course is an advanced workshop for those students who have demonstrated an expertise in the utilization of black and white materials and techniques. It will concentrate on the theory, practice, and aesthetics of color photography. Assignments will be completed using color positive materials (slide transparencies). Color lab facilities will be provided, and students will be expected to furnish their own 35mm camera, film, and paper. Enrollment is limited. Prerequisite: permission of instructor.

Mr. Slatkin

188 CRAFT CENTER COURSES

The title is a general designation for courses at the Worcester Craft Center. Open to nonmajors, but enrollment is limited, and requires permission of the Art Program Director. Intermediate/advanced level courses may require permission of the instructor as well.

PHOTOGRAPHY—BEGINNING

Introductory course that includes practice in the techniques and aesthetics of photography as a medium of personal expression. Lectures, field trips, and discussions supplement studio and darkroom work. A variable setting 35mm or 2¼ × 2¼ camera is required.

PHOTOGRAPHY—INTERMEDIATE/ADVANCED

Continuation of Beginning Photography.

CERAMIC DESIGN I

An exploration of form, textures, and color, using basic clayworking methods of hand-forming, coil building, and slab construction. Emphasis is on developing an awareness of elements of sculptural design rather than an attempt to produce utilitarian pottery.

CERAMIC DESIGN II

Intermediate/advanced

FIBER DESIGN I

An exploration of the material and formal qualities of fibers and experimentation with various structural processes: continuous-line constructions, intersection of fiber elements, off-loom and alternate weaving methods.

FIBER DESIGN II

Intermediate/advanced

METAL DESIGN I

Explores the basic concepts of three dimensional design as they relate to metalworking techniques and material characteristics of various metals: silver, copper, and brass. Methods of fabrication covered will include casting, soldering, rolling, and stamping. Contemporary designs in metalsmithing as well as historical works will be studied while students develop their own design aesthetic.

METAL DESIGN II

Intermediate/advanced.

DESIGN IN WOOD I

Students will be introduced to basic design concepts and the characteristics of wood while making projects that combine technical skills with sculptural construction. The use of tools and handmade joinery techniques will be covered through several small-scale projects that will allow students to explore their own design ideas and build a personal vocabulary of 3D forms.

DESIGN IN WOOD II
Intermediate/advanced.

199 MUSEUM SCHOOL STUDIO COURSES
A general designation for all courses at the school of the Worcester Art Museum. Open to studio art majors by portfolio evaluation and permission of the Art Program director. Courses include:
Painting I, II, III
Drawing I, II
Life Drawing
Sculpture I, II
Technics
Illustration I, II
Commercial Art Design
Photography I, II
Printmaking I, II

Note: If there is insufficient demand for any off-campus art course listed in this catalog, the University reserves the right to cancel the course.

279 THE AMERICAN LANDSCAPE
An interdisciplinary course, with emphasis on landscape painting, photography, and architecture in America. Through images of nature in art, we will consider the changing cultural attitudes towards the American landscape. While readings will be drawn from art history, they also will include literature and geography, as this course is designed as a cluster in conjunction with Professors Douglas Johnson (Geography 279) and John Conron (English 279).
Ms. Grad

MUSIC

PROGRAM FACULTY
Gerald R. Castonguay, Ph.D., Associate Professor of Music, Program Director
Wesley M. Fuller, M.Mu., Associate Professor of Music
Relly Raffman, A.M., George N. and Selma U. Jeppson Professor of Music
Susan F. Clickner, B.M., Curtis Institute Artist Diploma, Associate Professor of Voice (Affiliate)
Rita LaPlante, M.L.A., Associate Professor of Piano (Affiliate)
Jacques L. Linder, M.Mu., Assistant Professor of Piano and Clarinet (Affiliate)
Robert Manero, B.A., Assistant Professor of Violin (Affiliate), Director of Consortium Orchestra
Jill Maurer, M.Mu., Assistant Professor of Flute (Affiliate)
Robert Sullivan, Associate Professor of Guitar (Affiliate)
Robert Gronquist, A.M., Director of Choral Activities
Allan Mueller, Affiliate in Jazz Piano and Jazz Studies

UNDERGRADUATE PROGRAM
The music program offers a preprofessional course of study for the music major and courses and activities for the nonmajor. Courses are designed to teach students to listen to music intelligently, to develop a

comprehension of music on its own terms, to master basic skills of music and apply them creatively, and to acquaint students with representative works from various periods of music history.

The music program welcomes majors and nonmajors in its courses and, in the case of the music history courses, designs special assignments tailored to the different goals and backgrounds of the students in each category.

The Music Major: The music major includes the following courses:

- Theory: 121 Prerequisite: Music 120 (Rudiments of Music) or placement examination
- Theory: 122, 123, 124, 125
- Music History: 11, 12, 13, 14, 15, 16

The major who is following a concentration in performance may, with permission of the faculty, waive the 11 and 122 requirements.

- Performing Groups: a minimum of four semesters in 107, 117, 127, 130, or 137
- Related areas: a full course in art, theater art, or screen studies; or a full course in aesthetics.
- A minimum skills test, including sight-singing and dictation at a level of proficiency necessary for the successful pursuance of the major, must be passed during the sophomore year. A keyboard proficiency test must be passed during the junior year.

Major Concentration Areas: The professionally oriented major may, by permission, concentrate in composition, theory, history, or performance. This concentration is achieved through individual tutorial work usually undertaken only in the senior year; the exception is the performance concentration in which private lessons are taken throughout the major program. These concentrations result in various types of final projects including papers in historical research and theoretical research, compositions, and, in the case of the performance concentration, a senior recital preceded by appearances on student recitals. The performance concentration also requires a senior seminar dealing with stylistic analysis of the music to be performed on the senior recital. The music program stresses the advantages of combining such professional musical development with the humanistic breadth offered by a strong liberal arts college.

Although the music program does not offer specific courses in music education, a major may take courses in the Education Department and prepare for public school teaching. Within the Department of Education, a student may arrange for study in music curriculum and practice teaching. The thorough training within the music program, in combination with work in the Department of Education and the college in general, provides both a specialized and broad training for the prospective music teacher.

Performing Organizations: Nonmajors and majors are offered opportunities to perform in a diversity of organizations, including the Clark Concert Choir, the Worcester Consortium Orchestra, Instrumental Chamber Ensembles, and the Jazz Workshop.

Private Lessons: Private lessons in a variety of areas are offered for nonmajors and majors, with or without credit. (See Music 18 in the course offerings for further information.)

Placement Test: Prospective students who are considering a music major, are urged to contact the music program director and arrange for a placement test. This test, while not required, enables the faculty to assess the present musical development of the student and offer more informed advice. In some cases, it is possible to offer advanced theory placement as a result of the test. The test may be administered at Clark or through an authorized person at the student's present place of study.

Auditions: Students wishing to follow a performance concentration should arrange for an audition by contacting the director of the Music Program.

INTRODUCTORY COURSES

10 INTRODUCTION TO MUSIC

Designed for the nonmajor, this course is a prerequisite for entrance into all music history courses. Its goal is to expand the concept of the musical experience and to develop discriminating listeners. The course also provides an introduction to the music program as it is taught jointly by several members of the department. The course offers an introduction to principles of rhythm, pitch, timbre (and their notations); the principles of structure; the aesthetics of music; specific forms including fugue, sonata-form, variations, etc; and selected historical styles.
Staff

100 INTRODUCTION TO MUSIC II

This is a continuation of Music 10, and is designed for those students who want to explore masterworks from various periods in more depth. Each work will be studied not only for its musical structure, but as a product of its time and its particular culture. The course is structured for the nonmajor. Prerequisite: Music 10.
Staff

120 RUDIMENTS OF MUSIC

This course is an introduction to the fundamentals of music; no previous experience is necessary. The course includes notation, ear-training, sight-singing, score reading, and elementary melodic and harmonic organization. The course satisfies the prerequisite for credit in Music 18, and entrance to Music 121.
Staff

MUSIC HISTORY

11 MEDIEVAL AND RENAISSANCE PERIODS

Beginning with early Christian chant, this survey includes a study of the medieval song and motet, the growth of polyphonic secular and sacred music extending through the sixteenth century, culminating with the study of the Renaissance mass and madrigal. Works are performed in class, and scores are used for the majority of works studied. Prerequisite: 10, 120, or permission of instructor. Offered in alternate years. (Formerly Music 12.)
Mr. Castonguay

12 BAROQUE PERIOD

This is a survey of music from 1600 to 1750. This course deals with the origins and growth of vocal and instrumental genres (opera, oratorio, cantata, sonata, concerto, etc.) and the wide variety of formal types closing with the works of Bach and Handel. When possible, works are performed in class, and scores are used for works studied. Prerequisite: 10, 120, or permission of instructor. Offered in alternate years. (Formerly Music 13.)
Mr. Castonguay

13 CLASSICAL PERIOD

This survey of the music from the 1720s to the early decades of the nineteenth century focuses on the Italian, French, and Viennese styles. Special emphasis is given to the music of Haydn, Mozart, and Beethoven and the important musical genres of chamber music, symphony, and opera. Miniature scores are required for some of the works studied. Prerequisite: 10, 120 or permission of the instructor. Offered in alternate years.
Mr. Castonguay

14 ROMANTIC PERIOD

This course surveys the music of the major composers of the nineteenth century. The musical style and selected works of Schubert, Mendelssohn, Schumann, Chopin, Brahms, Tchaikovsky, Wagner, and others are studied and placed within the literary and artistic setting of nineteenth century society. Minature scores are required for some of the works studied. Prerequisite: 10, 120 or permission of the instructor. Offered in alternate years.
Mr. Castonguay

15 TWENTIETH-CENTURY MUSIC I

This course is a survey of early twentieth-century masterworks. Representative composers include: Debussy, Ravel, Prokofiev, Stravinsky, Bartok, Hindemith, Schoenberg, Berg, and Webern. Offered in alternate years. Prerequisite: 10 or 120.
Mr. Raffman

16 TWENTIETH-CENTURY MUSIC II

This course studies important works composed primarily since 1950. Composers include Stravinsky, Cage, Carter, Boulez, Messiaen, Stockhausen, and others. Offered in alternate years. Prerequisite: 10 or 120.
Mr. Fuller

17 THE MUSIC OF JOHANNES BRAHMS

The course considers Brahms as man and musician in the latter half of nineteenth-century Vienna. Detailed analyses of his chamber and orchestral music, lieder, and keyboard works are undertaken. Whenever possible, works will be performed live in class. Although scores will be provided in the majority of cases, students will be expected to purchase several scores for extended study. Prerequisite, 10, 120, or permission of instructor. (Formerly Music 16.)
Mr. Castonguay

19 WORLD MUSIC

Students study and listen to the differences and likenesses in music from a wide variety of cultures. The ways in which music functions within cultures is considered; these functions range from classical art music to music for work and communal celebration. Musics of India, Africa, Japan, China, Iran, Java, and Louisiana Cajun are some of the recurring areas. Guest performers of ethnic music are part of the course.
Mr. Fuller

20 CHAMBER MUSIC

This course deals with a survey of selected works of the major composers

in the field of chamber music from Haydn to Stravinsky. Trips to concerts in the surrounding area will be made whenever feasible. Prerequisites: 10, 120, or permission of instructor.
Mr. Castonguay

113 J.S. BACH AND HIS MUSIC

This course focuses on the study of Bach and his music. It investigates the social, historic, and cultural setting of Bach's era, and, in particular, it encompasses an intense study of his music including the early cantatas and organ works, the instrumental music from his Cothen period, and, finally, the mature cantatas of his Leipzig years. When possible, works will be performed in class and scores will be provided for the majority of works studied. Prerequisite: 10 or 120. Offered in alternate years.
Mr. Castonguay

114 BEETHOVEN: THE MAN AND HIS MUSIC

This is a study of Beethoven as man and artist. This course explores the social and historical background of Beethoven's Vienna and centers on the study of selected works from the important genres (symphony, chamber music, and sonata) throughout Beethoven's career. Minature scores are required for a number of works studied. Prerequisite: 10, 120, or permission of instructor. Offered in alternate years.
Mr. Castonguay

118 SENIOR TUTORIAL IN MUSIC HISTORY

This course is for majors only. Offered as a full course. Prerequisite: permission of instructor.
Staff

132 JAZZ HISTORY

The course centers around a study of the evolution of jazz style from its nineteenth-century beginnings to the present day: African roots, minstrels, ragtime, Dixieland, swing, bop, progressive, cool, free-form, and third-stream. A research paper and a final exam are required. Offered in alternate years. Offered as a half course.
Mr. Raffman

MUSIC THEORY

121 PRIMARY THEORY

This course is a study of the structure of tonal music and includes analytical and compositional problems in homophonic, monodic, and polyphonic textures, basic orchestration, ear-training, sight-singing, and conducting. Prerequisite: 120 or entrance examination (given at first class meeting). Offered through the year. Divisible course.
Mr. Raffman

122 THEORY: MODAL COUNTERPOINT

Contrapuntal styles in two-, three-, and four-part textures of major composers of the fifteenth and sixteenth centuries are analyzed and used as a foundation for compositional assignments. Twentieth-century modal polyphony is also studied. Prerequisite: 121. Offered in alternate years.
Mr. Fuller

123 THEORY: EIGHTEENTH-CENTURY COUNTERPOINT

This course deals with compositional and analytical problems in the eighteenth-century contrapuntal idiom; two-and three-part inventions, canon, and fugue. The thoroughbass practice of the seventeenth and eighteenth centuries is explored. Final project: the composition of a three- or four-voice fugue. Prerequisite: 121. Offered in alternate years.
Mr. Raffman

124 THEORY: NINETEENTH-CENTURY PRACTICE

This course deals with problems in analysis, composition, and orchestration in the chromatic style of the nineteenth-century. Works of Beethoven, Chopin, Schumann, Wagner, and Brahms are analyzed and used as compositional models. The harmonic language of impressionism, with its emphasis on scalar control, also is examined. Prerequisite: 121. Offered in alternate years.
Mr. Raffman

125 THEORY: TWENTIETH-CENTURY PRACTICE

Compositional techniques of major twentieth-century composers are studied and used as a basis for analysis and compositional assignments. Prerequisite: 124 or permission of instructor.
Mr. Fuller

128 SENIOR TUTORIAL IN COMPOSITION

This course is for majors only. Offered as a full course. Prerequisite: permission of instructor.
Staff

131 JAZZ THEORY

This course includes a study of the rhythmic/harmonic/melodic structures of jazz, the scalar basis of improvisation, and voicing practice as it pertains to scoring for small and large ensembles. Prerequisite: 120 or passing of placement examination in rudiments. Offered in alternate years.
Mr. Raffman

133 TUTORIAL IN JAZZ COMPOSITION

The student writes original scores for performance by workshop ensemble. Prerequisites: 131 and permission of instructor.
Mr. Raffman

138 SENIOR TUTORIAL IN THEORY

This course is for majors only. Offered as a full course. Prerequisite: permission of instructor.
Staff

SPECIAL OFFERINGS

88 DIRECTED READINGS

This is a sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Staff

89 SPECIAL PROJECTS

Students conduct independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Staff

90 DIRECTED STUDIES IN ELECTRONIC MUSIC

This is advanced work in any of the main areas of electronic music: composition, hardware or software design, psychoacoustics. Work may center on either analog (synthesizer) or computer music. Resources of the Tri-college Electronic Music Program are made available to students. Prerequisite: 140 or permission of instructor.
Mr. Fuller

135 SEMINAR: THE COMPOSER AND SOCIETY

The basic theme for the seminar deals with the relationship between the artist and society. Topics will revolve around the effects that institutions, whether governmental, religious, economic, or sociomusical, have upon the artistic life of the composer. Psychological and artistic effects upon the composer and various approaches taken by composers to find and maintain artistic identity and integrity will be explored. Projects will focus on periods and composers decided upon by the students and the instructor. Nonmajors and majors are welcome in the seminar.
Mr. Castonguay

140 INTRODUCTION TO ELECTRONIC MUSIC

This course is part of the Tri-college Program in Electronic Music. Its goal is to provide a greater understanding of electronic music as a natural, historical, and artistic result of musical and technological achievements of the twentieth century. It begins with parallel discussions of the physical description of sound and of pre-1959 musical developments and continues into the three major phases in the history of electronically produced sound, the processing of natural and electronic sound sources with tape recorder and laboratory methods, the voltage controlled synthesizer, and the techniques of computer generated sound. A group of important musical works will be studied. The course will include directed work in the analog synthesizer studios. The course is team taught by two composers and a physicist.
Mr. Fuller, Mr. Jasperson (WPI), Mr. Korde (Holy Cross)

170 IN-FORM-ATION: MEANING THROUGH STRUCTURE IN MUSIC AND THEATER

This course explores the ways in which form creates meaning. A set of common concepts is used to look at qualities of structure in a variety of creative experiences. The goal is to develop in the student the ability to recognize the significance of forms, whether they occur in art or in everyday life. The course assumes that some of the most meaningful insights into a particular subject may be gained by bringing to bear upon it the critical methods of other areas of knowledge. Listed for credit as Comparative Literature 170 and Philosophy 149.
Mr. Fuller, Mr. Spingler, Staff

182 ROMANTICISM IN THOUGHT, LITERATURE AND THE ARTS

Part of a Humanistic Studies cluster and also listed for credit as

Comparative Literature 182, Philosophy 182, and English 182.
Staff

299.9 INTERNSHIP IN MUSIC
Offered for variable credit.
Staff

PERFORMANCE

18 PRIVATE INSTRUCTION IN INSTRUMENTS AND VOICE
Areas offered include: piano, jazz piano, voice, clarinet, flute, classical guitar, and violin. Lessons may be taken for credit or noncredit. Prerequisite for credit: successful completion of Music 120 or the passing of the entrance examination to Music 121. No credit is awarded to beginners. Beginners are welcome in all areas except jazz piano. Nonmajors and majors not concentrating in performance may receive one quarter credit per semester or one half credit per semester, depending on length of lesson. Majors who are accepted as concentrators in performance may receive one credit per semester during their junior and senior years. Maximum number of credits: nonmajors, three; majors not in performance concentration, four; majors in performance concentration, six. Whenever possible, students will be assisted in locating a qualified teacher in areas not currently offered. For credit for off-campus study, special permission of the program director is required. Credit is not awarded for off-campus study in areas offered at the University.
Staff

130 JAZZ WORKSHOP
The course includes ensemble performance practice with weekly rehearsals through the year. An audition is required. Credit is possible for those concurrently enrolled in or having previously passed 131. Maximum transcript credit allowed is one full course; offered as a half course.
Mr. Raffman

134 CHORAL MUSIC AND CONDUCTING
Styles of choral music from different periods will be studied with the aid of scores and recordings. Students will learn basic choral conducting techniques. Prerequisite: 121 or permission of instructor. Offered at discretion of department.
Staff

148 SENIOR TUTORIAL FOR PERFORMANCE CONCENTRATION
Majors concentrating in performance will analyze historically and theoretically the music they will perform on their senior recital. A term paper is required.
Staff

The following musical activities are open to all students, graduate and undergraduate alike. Auditions are held during the first week of Semester 1. Although no credit is awarded, the transcript of any undergraduate who completes the assigned performance requirements will include a listing of the particular activity for which he or she was registered.

107 CHAMBER MUSIC ENSEMBLES

The number of small ensembles is determined by the performing talent in a given year. Admission is by audition.
Staff

117 CLARK CHAMBER CHORUS

This is a small, specialized singing group chosen by the conductor from the larger Clark Concert Choir. Admission is by audition.
Mr. Gronquist

127 CLARK CONCERT CHOIR

The Concert Choir is a chorus of 40 to 50 voices; it presents two major concerts each year on the Clark campus. There are also off campus appearances.
Mr. Gronquist

137 WORCESTER CONSORTIUM ORCHESTRA

The orchestra is made up of students from various Consortium institutions and instrumentalists from the community. The orchestra presents two major concerts each year. Admission is by audition.
Mr. Manero

SCREEN STUDIES

PROGRAM FACULTY

Anthony W. Hodgkinson, Associate Professor of Screen Studies, Program Director

PARTICIPATING FACULTY

Charles H. Slatkin, M.F.A., Lecturer, Department of Visual and Performing Arts
James P. Elliott, Ph.D., Assistant Professor of English
Elizabeth A. Stanko, Ph.D., Assistant Professor of Sociology

UNDERGRADUATE PROGRAM

The media of the screen—film, television, video—have now become an all-pervading communication and art form. No educated person can fail to note (even at the most elementary level) what the screen is doing to our society, and *vice-versa*. The program in screen studies is designed to help students acquire a critical understanding and appreciation of our youngest arts and some of their implications for us. For those who elect to study in the program, there are a wide variety of ways in which a deeper understanding may be acquired, leading to future career opportunities which are widely and increasingly available in many fields.

The program involves three related activities: (1) the viewing, discussion, analysis, and evaluation of a large number of significant works; (2) initial attempts, through simple film and/or video production, to express oneself in a technically demanding medium; and (3) analysis and discussion of current communications media trends. The emphasis of most courses will be on the viewing, discussion, and analysis of screen works—films, television programs, etc. Many of the courses are designed to focus especially on the historical and social impact of the screen media; others concern themselves with the media's aesthetics, technologies, and techniques. The production courses are currently set at an introductory, elementary level; currently there is no intention of providing professional training in film or video production. An undergraduate degree involving screen studies will almost certainly provide an entry to masters' and doctoral programs elsewhere.

Screen studies may take a variety of forms, dependent on the individual student's special interests in the screen media—their history, nature, aesthetic value, social and psychological impact, etc. Career orientations can include film and video community work, libraries, museums and archives, cable television, film, video cassette and videodisc distribution, and motion picture museum management.

COURSES

(Note: As this catalog went to press proposals for a major in screen studies were still under consideration. The following description of courses to be offered during 1980–81 and 1981–82 is therefore likely to be modified in some respects. Should the introduction of a major be approved later, credit for courses taken can count towards either a screen studies major or a self-designed major involving screen studies.)

88 DIRECTED READINGS

A sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor. Variable credit.
Staff

89 SPECIAL PROJECTS

Independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Variable credit.
Staff

90 INTERNSHIPS OR OFF-CAMPUS EXPERIENCE

There are a variety of these available. In each case, the experience will be evaluated both by an on-site supervisor and a faculty member. Prerequisite: 101 or 102 plus at least one other screen studies course. Variable credit
Staff

101 INTRODUCTION TO SCREEN STUDIES I: THE ELEMENTS OF SCREEN LANGUAGE

A survey of the varied techniques used in the making of all screen communications (film, television, video): the invention of the language, silent film narrative, editing, music, speech, and sound. Lecture/screenings, analyses of two or three feature films, term papers, and readings. This course is one of two possible prerequisites for other screen studies courses. (See 102.) Open to all.
Staff

102 INTRODUCTION TO SCREEN STUDIES II

The form this course will take will be determined by the professor. It is the second of two possible prerequisites for other screen studies courses (see 101 above). Open to all.
Staff

199 ELEMENTARY SCREEN PRODUCTION

A practical workshop in Super-8mm film production. Students will complete six films which will be analyzed and criticized. Prerequisite or corequisite: 101 or 102 and permission of instructor. Limited to 15 students.

Staff

200 THE FILM STUDIO TEAM

In a series of lecture/screenings, the contributions to the feature film of each of the major members of the studio team—writer, director, actor, etc.—are examined, and two or three feature films are analyzed in detail. Term papers and readings. Prerequisite 101 or 102.

Mr. Hodgkinson

201 ASPECTS OF SCREEN HISTORY

Under this general heading, various facets of the 80 years of world cinema and television are explored in a series of lecture/screenings and discussion seminars. Content varies each time the course is taught, and it may be taken more than once. Prerequisites: 101 or 102.

Staff

211 SCREEN AND SOCIETY

Thematic explorations of the ways in which the screen media have reflected/affected their contemporary society. Content varies each time the course is taught and it may be taken more than once. Also listed for credit as Sociology 249. Prerequisite: 101 or 102.

Staff

221 SCREEN AUTEURS

A continuing series of lecture/screenings and discussion seminars in which an examination is made of the canon of work of individuals— producers, directors, writers, cinematographers, and others, who qualify as "auteurs" (i.e., primary "authors" of a film or television program or series). The individuals studied vary each time the course is offered, and it may be taken more than once. Prerequisite: 101 or 102.

Staff

231 SCREEN LITERATURE

A seminar in which some of the significant books of film theory, aesthetics, history, etc., are studied in detail and depth. Prerequisite: 101 or 102 plus at least one other screen studies course. Enrollment is limited to 20 students.

Mr. Hodgkinson

241 LITERATURE AND THE SCREEN

This is a course in which relationships between literary works and significant films are explored in detail and depth. Minimum prerequisites are introductory courses in both screen studies and literature. Limited enrollment, permission of instructors necessary. Also listed for credit as English 14.

Mr. Hodgkinson, Mr. Elliott

COURSES DIRECTLY RELATED TO SCREEN STUDIES OFFERINGS

For descriptions and details, please refer to course listings within the departments.

French 160 THE FILMS OF JEAN RENOIR
Mr. Spingler

Spanish 135 HISPANIC ETHOS AND CINEMA: THE FILMS OF LUIS BUNUEL
Mr. D'Lugo

German 150 MODERN GERMAN CINEMA
Mr. Schatzberg

THEATER ARTS

PROGRAM FACULTY

Neil R. Schroeder, Ph.D., Associate Professor of Theater
Raymond J. Munro, M.A.H., Assistant Professor of Theater
Lauren J. Kurki, B.F.A., Technical Director of Theater

UNDERGRADUATE PROGRAM

Courses in theater arts—open to majors and nonmajors—are intended to provide theater students with a sound liberal arts education and to prepare them for graduate school or professional theater. Each year, the program presents professionally directed productions of classic and contemporary theater. All Clark students are eligible to audition for plays and work on production crews, but students who take courses in theater arts are expected, as part of their course work, to participate in productions. Students also may act and direct in classes, workshops, and student-sponsored productions.

The Theater Arts Major

The major program provides training and experience in various theater disciplines. Advanced work may be done in Directed Readings and Special Projects courses, and advanced tutorials. Majors may concentrate in either Performance/Production or Dramatic Literature/Theater History. The major consists of a minimum of fifteen full courses as follows:

Performance/Production Sequence

1) Required:
    - T.A. 10 How Does a Play Work?
    - T.A. 12a and b The Creative Actor, *or* T.A. 13a and b, Actor as Thinker (one semester of either)
    - T.A. 120 Basic Technical Theater I
2) At least three full courses from the following:
    - T.A. 151a and b Theater in Western Civilization
    - T.A. 154a and b Modern Drama
    - T.A. 155a and b English Drama
3) At least four courses from the following:
    - T.A. 11 Voice and Diction (required for actors and directors)
    - T.A. 12a and b The Creative Actor
    - T.A. 13a and b Actor as Thinker
    - T.A. 16 Beginning Stage Movement

T.A. 19	Directing Seminar
T.A. 113	Studio (may be repeated)
T.A. 122	Basic Technical Theater II
T.A. 123	Design for the Theater (may be repeated)

4) At least two more courses in theater arts, either from those listed above or others; *or* two courses in dramatic literature not taught in the Theater Arts Program.
5) At least three related courses such as art, film, music, English, philosophy, history, classics, comparative literature, and foreign languages and literatures.

In addition, all students who are seriously interested in acting or directing should attempt to master at least one foreign language.

Dramatic Literature/Theater History Sequence

1) Required:

T.A. 10	How Does a Play Work?
T.A. 11	Voice and Diction
T.A. 12a and b	The Creative Actor, *or* T.A. 13a and b Actor as Thinker (one semester of either)
T.A. 120	Basic Technical Theater I

2) At least six full courses from the following:

T.A. 151a and b	Theater in Western Civilization
T.A. 154a and b	Modern Drama
T.A. 155a and b	English Drama
T.A. 164	The American Musical Theater
T.A. 185	Tennessee Williams

3) At least two more courses in theater arts, either from those listed above or others; *or* two courses in dramatic literature not taught in theater arts.
4) At least three related courses such as art, film, music, English, philosophy, history, classics, comparative literature, and foreign languages and literatures.

In addition, a mastery of at least one foreign language is strongly recommended.

Theater arts courses may serve as part of a "minor," a double major, a student-designed major, or, they may be an integral part of a program in another discipline. Students who plan to major in theater arts should consult with program faculty regarding appropriate course sequences and prerequisites.

COURSES

10 HOW DOES A PLAY WORK? CRITICAL ANALYSIS AND WRITING

The class will study a small group of plays representing several styles, modes, and eras of Western drama, with special emphasis on formal analysis—study of the form and structure of each play. By means of class discussion, the oral interpretation of scenes from the plays, and the reading of critiques, which illustrate various critical approaches to the drama, the student will be encouraged to arrive at a personal evaluation of the plays. Each student will be required to write several papers in which he/she handles a particular critical problem or critical approach and expresses a personal evaluation of the plays. Student papers will be carefully corrected

and evaluated by the instructor and, in some cases, by the class, and opportunities for revision will be provided when desirable. This course satisfies the *verbal expression* skill in the Introductory Program. No prerequisite. Limited enrollment.
Mr. Schroeder

11 VOICE AND DICTION

The course is an intensified phonetic approach to articulation and voice production with some emphasis on speech for the stage and for public occasions. Each student will be required to master the International Phonetic Alphabet to the point where it is an effective tool for ear training and articulation. Several laboratory sessions will be provided for the student to record and listen to his/her voice and for individual coaching by the instructor. No prerequisite.
Staff

12 THE CREATIVE ACTOR I AND II

Through a series of workshops, the student will become familiar with the basic tools necessary to the art of acting. The approach will be based on the techniques of Stanislavski, Viola Spolin, Joseph Chaikin, Robert Benedetti, and original exercises, including an introduction to basic voice and movement for the actor. This is a divisible course. No prerequisite. Limited to 25.
Mr. Munro

13 ACTOR AS THINKER I AND II

A conceptual approach to acting theory and its application. Through a series of lectures and exercises, the student is led to a greater understanding of script analysis, characterization, style, and the relationship of the actor to his audience. This is a basic course for all students who intend to continue in acting and directing, and it is a prerequisite for the Studio and Directing Seminar courses. This course is indivisible. No prerequisite. Limited to 15.
Mr. Munro

16 BEGINNING STAGE MOVEMENT

Students will study the basic principles of stage movement techniques and extension of the emotional range of the body. Prerequisite: permission.
Staff

17 ADVANCED MOVEMENT FOR THE THEATER

Students will receive further development of stage movement technique. They will do work in rhythm and dynamics through involvement in choreographed selections. Styles of movement will be studied. Prerequisites: Theater Arts 16 and permission.
Staff

19 DIRECTING SEMINAR

This is an introduction to the principles of directing for the stage through theory, practical application, and discussion. Students will study problems of interpretation and concept; the role of the director as creative and interpretive artist; relationship to designer, stage manager, and actors. Additional lab time is required. Prerequisites: Theater Arts 13a and b and permission of instructor.
Mr. Munro

88 DIRECTED READINGS

This is a sequence of structured readings on a given topic approved and directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Staff

89 SPECIAL PROJECTS

Students will conduct independent research on a particular problem or an original creative project directly supervised by the instructor. Prerequisite: permission of instructor. Offered for variable credit.
Staff

113 STUDIO

A scene study course applying methods, theories, and approaches discussed in Theater Arts 13, Actor as Thinker. Students will be required to present several scenes of different periods and styles for discussion, critical written review, and further development by classmates and director. The content will vary each time the course is taught and it may be repeated for credit. Lab and crew hours will be required. Prerequisites: Theater Arts 13a and b.
Mr. Munro

120 BASIC TECHNICAL THEATER I

Introduction to theatrical production. Techniques and organization involved in providing the stage with scenery, lights, and properties. Drafting of these elements is introduced, as well as scaled ground plans and other stage data. Makeup, lighting, and set construction in applied lab/crew requirements.
Ms. Kurki

122 BASIC TECHNICAL THEATER II

Continuation of Theater Arts 120. Beginning elements of design and styles of production. Basics of perspective and methods of pictorial representation. Continued focus on specific elements of scenery, lighting, and properties in relation to theater facilities, materials, and equipment. Lab/crew assignments. Prerequisite: Theater Arts 120 or permission of instructor.
Ms. Kurki

123 DESIGN FOR THE THEATER

Theory of design/function of stage designer relating to production and to director. Historical research in styles of ornament and production. Student may register with emphasis on scenery, lighting, properties or costume/makeup design. Drafting required. Painting and rendering introduced. Lab/crew assignments. May be repeated for credit. Prerequisite: Theater Arts 120 and 122.
Ms. Kurki

151 THEATER IN WESTERN CIVILIZATION

This course is a survey of theater and drama from ancient Greece to the twentieth century. The course will consider the form and substance of theatrical presentations and the study of several representative plays from each important era and national theater. The first semester will cover the period from the Greeks to the Renaissance; the second semester will cover

the period from the seventeenth century to the twentieth century. No prerequisite. Offered at the discretion of the department.
Mr. Schroeder

154 MODERN DRAMA

This is a survey of Western drama and theater from Ibsen to the present. The first semester traces the development of modern realistic drama and early experimental reactions to realism. The second semester covers the period from World War II to the present and examines several of the major postwar movements and the radical dramatic forms they have produced. No prerequisite. Also listed for credit as English 129.
Mr. Schroeder

155 ENGLISH DRAMA

This is a course in the major periods of English drama and theater before the twentieth century. The first semester covers the medieval theater and the drama of Tudor, Jacobean, and Caroline England. The second semester covers the period from 1660 to the twentieth century. No prerequisite. Also listed for credit as English 155.
Mr. Schroeder

164 THE AMERICAN MUSICAL THEATER

While some attention will be paid to the history of the musical theater in the United States, primary emphasis in this course will be on the study and analysis of several important contemporary musicals, their books, their lyrics, their music, and their productions, in an effort to determine form and structure, trends and innovations. Each student will be expected to study the book and lyrics for each show; in addition, each student will be expected to listen to tapes of the music for each show. These tapes will be on reserve in the Goddard Library. No prerequisite.
Mr. Schroeder

185 TENNESSEE WILLIAMS

This is an intensive study of the work of Tennessee Williams, concentrating on his development as an artist. Students will make an evaluation of his contribution to drama and literature through reading and analysis of his works. No prerequisite, but some experience in drama and literature is expected.
Mr. Schroeder

204 ADVANCED TUTORIAL IN ACTING I

Special study and coaching in acting problems for experienced actors only. Prerequisites: Theater Arts 113 and permission of instructor. Variable credit.
Staff

205 ADVANCED TUTORIAL IN ACTING II

Continuation of Theater Arts 204. Prerequisites: Theater Arts 204 and permission of instructor. Variable credit.
Staff

206 ADVANCED TUTORIAL IN ACTING III

Continuation of Theater Arts 205. Prerequisites: Theater Arts 205 and permission of instructor. Variable credit.
Staff

207 ADVANCED TUTORIAL IN ACTING IV
Continuation of Theater Arts 206. Prerequisites: Theater Arts 206 and permission of instructor. Variable credit.
Staff

242 ADVANCED TUTORIAL IN DIRECTING I
Special study and coaching in problems of directing for advanced students. Prerequisites: Theater Arts 19 and permission of instructor.
Staff

243 ADVANCED TUTORIAL IN DIRECTING II
Continuation of Theater Arts 242. Prerequisites: Theater Arts 242 and permission of instructor.
Staff

Women's Studies

PARTICIPATING FACULTY
Cynthia H. Enloe, Ph.D., Professor of Government
Serena S. Hilsinger, Ph.D., Professor of English
Bernard Kaplan, Ph.D., Professor of Psychology
Anne Buttimer, Ph.D., Professor of Geography
Dorothy Kaufmann-McCall, Ph.D., Associate Professor of French
Sharon P. Krefetz, Ph.D., Associate Professor of Government
Walter E. Wright, Ph.D., Associate Professor of Philosophy
Elizabeth A. Stanko, Ph.D., Assistant Professor of Sociology
Ann Seidman, Ph.D., Professor of International Development (Affiliate)

PROGRAM
Although Clark does not offer a major in Women's Studies, it recognizes the appropriateness of offering courses that reflect the concerns of women from the perspective of different disciplines. Each year, courses that speak to the social roles, biological theories, and cultural formulations of women's and men's positions in society are offered in a number of departments. Interested students are encouraged to design a "concentration" to supplement their traditional disciplinary based majors. The following sequence of courses is recommended for such a concentration: Introduction to Women's Studies, one advanced course, one seminar, and an internship in Women's Studies. Students also may self-design a major to include issues related to Women's Studies.

The following is a partial list of Clark's Women's Studies course offerings; more information can be obtained from participating faculty.

COURSES

INTRODUCTION TO WOMEN'S STUDIES
Refer to course description under Sociology 110.
Staff

COMPARATIVE POLITICS OF WOMEN
Refer to course description under Government 108.
Ms. Enloe

FICTION BY WOMEN WRITERS
Refer to course description under English 115.
Ms. Hilsinger

MODERN FICTION BY WOMEN WRITERS
Refer to course description under English 116.
Ms. Hilsinger

WOMEN AND PHILOSOPHY
Refer to course description under Philosophy 139.
Mr. Wright

WOMEN IN THE MALE LITERARY IMAGINATION
Refer to course description under French 167.
Ms. Kaufmann-McCall

THE PSYCHOLOGY OF LOVE AND HATE
Refer to course description under Psychology 169.
Mr. Kaplan

WOMEN WRITERS
Refer to course description under French 171.
Ms. Kaufmann-McCall

FRENCH AND AMERICAN FEMINISM
Refer to course description under French 220.
Ms. Kaufmann-McCall

WOMEN AND POLITICS
Refer to course description under Government 175.
Ms. Krefetz

WOMEN AND CRIME
Refer to course description under Sociology 210.
Ms. Stanko

SOCIOLOGY OF SEX ROLES
Refer to course description under Sociology 225.
Staff

EROS AND FEMINISM
Refer to course description under Comparative Literature 226.
Ms. Kaufmann-McCall

SEMINAR: VIRGINIA WOOLF
Refer to course description under English 226.
Ms. Hilsinger

IMAGES OF WOMEN IN FILM
Refer to course description under Sociology 249.
Ms. Stanko, Mr. Hodgkinson

THE FAMILY
Refer to course description under Sociology 255.
Staff

VALUES IN GEOGRAPHY

Refer to course description under Geography 268.
Ms. Buttimer

Faculty

Members of the faculty and officers (appointed for the 1981–82 academic year as of July 1, 1981) are listed alphabetically with their titles, degrees, and years at Clark.

PRESIDENT

MORTIMER H. APPLEY, Ph.D., President of the University, Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950; D.Sc., York University, 1975. (1974–)

EMERITI

KARL O.E. ANDERSON, Ph.D., Professor of English, Emeritus. A.B., Harvard University, 1927; A.M., 1928; Ph.D., 1942. (1945–76)

KARL J.R. ARNDT, Ph.D., Professor of German, Emeritus. (1950–1974)

RAYMOND E. BARBERA, Ph.D., Professor of Romance Languages, Emeritus. A.B., Brooklyn College, 1947; A.M., University of Arizona, 1948; Doctor en Letras, Universidad Nacional de Mexico, 1949; Ph.D., University of Wisconsin, 1958. (1953–)

TILTON M. BARRON, B.L.S., Librarian Emeritus. A.B., Colorado College, 1937; B.L.S., Columbia University School of Library Science, 1940. (1954–1978)

PAUL S. CLARKSON, J.D., Curator Emeritus. (1969–1979)

LYDIA P. COOK, B.S., Registrar, Emeritus. (1932–1966)

JESSIE C. CUNNINGHAM, Ph.D., Associate Professor of English, Emeritus. (1957–1975)

TAMARA DEMBO, Ph.D., Professor of Psychology, Emeritus. (1953–1972)

GEORGE E. HARGEST, M.B.A., Associate Professor of Economics, Emeritus. (1942–1971)

SHERMAN S. HAYDEN, Ph.D., Professor of International Relations, Emeritus. (1946–1973)

HOWARD B. JEFFERSON, Ph.D., LL.D., L.H.D., Litt. D., President, Emeritus. A.B., Denison University, 1923; Ph.D., Yale University, 1929; LL.D., Denison University, 1948, Hillsdale College, 1952, Northwestern University, 1958; L.H.D., Colgate University, 1951, Assumption College, 1956; Litt. D., College of the Holy Cross, 1962; L.H.D. Clark University, 1967; LL.D., Emerson College, 1968; Litt. D., Anna Maria College, 1972. (1946–1967)

FREDERICK W. KILLIAN, LL.B., Associate Professor of Sociology, Emeritus. (1947–1970)

J. FANNIN KING, M.A., Associate Professor of Romance Languages, Emeritus. Adviser to International Students. A.B., Pomona College, 1936; A.M., Harvard University, 1937. (1946–)

DWIGHT E. LEE, Ph.D., L.H.D., Jacob and Frances Hiatt Professor of European History, Dean of the Graduate School, Emeritus. (1927–1967)

RAYMOND E. MURPHY, Ph.D., Professor of Economic Geography, Emeritus. (1946–1968)

J. RICHARD REID, Ph.D., Professor of Romance Languages, Emeritus. (1944–1976)

PERCY M. ROOPE, Ph.D., Professor of Physics, Emeritus. (1921–1962)

HENRY J. WARMAN, Ph.D., Professor of Geography, Emeritus. (1943–1974)

FACULTY AND OFFICERS OF INSTRUCTION

VERNON AHMADJIAN, Ph.D., Professor of Botany, Department of Biology Chair. A.B., Clark University, 1952; A.M., 1956; Ph.D., Harvard University, 1960. (1959–1968; 1969–)

MARILYN S. ALBERT, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Rochester University, 1963; M.A., McGill University, 1964, Ph.D., McGill University, 1979. (1978–)

MARTIN ALBERT, M.D., Ph.D., Associate Professor of Psychology (Affiliate). M.D., Tufts Medical School, 1963; Ph.D., University of Paris, 1971. (1980–)

MICHAEL P. ALEXANDER, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Rice University, 1968; M.D., Stanford University, 1972.

HARRY C. ALLEN JR., Ph.D., Professor of Chemistry, Associate Provost and Dean of Research. B.S., Northeastern University, 1948; Sc.M., Brown University, 1949; Ph.D., University of Washington, 1951. (1969–)

ROY S. ANDERSEN, Ph.D., Professor of Physics. A.B., Clark University, 1943; A.M., Dartmouth College, 1948; Ph.D., Duke University, 1951. (1960–)

ALBERT A. ANDERSON, Ph.D., Associate Professor of Philosophy, Department of Visual and Performing Arts Chair. B.A., Morningside College, 1960; M.A., Boston University, 1963; Ph.D., 1971. (1973–)

ALBERT G. ANDERSON JR., M.L.S., University Librarian. B.S., North Dakota State University, 1952; M.A., University of Wyoming, 1953; M.L.S., University of Illinois, 1956. (1978–)

PATRICIA M. ANDERSON, Ph.D., Assistant Professor of Marketing. B.A., Connecticut College, 1953; M.A., University of Delaware, 1968; Ph.D., University of Massachusetts, 1977. (1980–)

MORTIMER H. APPLEY, Ph.D., President; Professor of Psychology. B.S., The City College, New York, 1942; M.A., University of Denver, 1946; Ph.D., University of Michigan, 1950. (1974–)

ELANA ASHLEY, Ph.D., Lecturer in Hebrew Language & Literature. B.A., Queens College, 1970; M.A., New York University, 1973; Ph.D., 1977. (1978–)

ROBERT W. BAKER, Ph.D., Professor of Psychology; Director, Psychological Services Center. A.B., Hobart College, 1947; Ph.D., Clark University, 1953. (1954–)

THOMAS C. BARROW, Ph.D., Professor of American History (Affiliate). B.A., Harvard University, 1952; M.A., 1954; Ph.D., 1961. (1967–)

DAVID M. BEAR, M.D., Assistant Professor of Psychology (Affiliate). B.A., Harvard University, 1965; M.D., Harvard Medical School, 1971.

JAMES F. BEARD JR., Ph.D., Professor of English, Department of English Chair. A.B., Columbia College, 1940; A.M., Columbia University, 1941; Ph.D., Princeton University, 1949. (1955–)

D. FRANK BENSON, M.D., Professor of Psychology (Affiliate). B.A., University of North Dakota, 1950; B.S. (in Medicine), 1951; M.D., Northwestern University, 1953. (1974–)

LAURENCE BERLOWITZ, Ph.D., Professor of Biology and Chemistry, Provost and Vice President for Academic Affairs. A.B., University of California, Berkeley, 1954; M.A., University of California, Los Angeles, 1958; Ph.D., University of California, Berkeley, 1965. (1981–)

LEONARD BERRY, Ph.D., Professor of Geography; Director, Graduate School of Geography; Codirector of International Development Program. B.Sc., University of Bristol, 1951; M.Sc., 1956; Ph.D., 1969. (1969–)

ROGER BIBACE, Ph.D., Professor of Psychology. A.B., University of British Columbia, 1949; Ph.D., Clark University, 1957. (1957–)

GEORGE A. BILLIAS, Ph.D., Professor of American History. A.B., Bates College, 1948; A.M., Columbia University, 1949; Ph.D., 1958. (1962–)

CHARLES S. BLINDERMAN, Ph.D., Professor of English. A.B., New York University, 1952; A.M., 1953; Ph.D., Indiana University, 1957. (1962–)

VAN BLUEMEL, Ph.D., Associate Professor of Physics (Affiliate). B.S., University of Michigan, 1955; M.S., University of Illinois, 1960; Ph.D., 1967.

JOHN BLYDENBURGH, Ph.D., Professor of Government and International Relations. B.A., Harpur College, 1965; Ph.D., University of Rochester, 1969. (1975–)

JONATHAN M. BORDO, Ph.D., Assistant Professor of Philosophy. B.A., University of Alberta, 1968; M.A., Yale University, 1974; Ph.D., 1974. (1980–)

DANIEL R. BORG, Ph.D., Associate Professor of European History, Department of History Chair. A.B., Gustavus Adolphus College, 1953; A.M., Yale University, 1957; Ph.D., 1963. (1961–)

MARTYN J. BOWDEN, Ph.D., Professor of Geography. B.A., London University, 1957; M.A., University of Nebraska, 1959; Ph.D., University of California, Berkeley, 1967. (1964–)

DAEG S. BRENNER, Ph.D., Professor of Chemistry. B.A., Rensselaer Polytechnic Institute, 1960; Ph.D., Massachusetts Institute of Technology, 1964. (1967–)

JOHN J. BRINK, Ph.D., Professor of Biochemistry. B.Sc., University of Orange Free State, 1955; B.Sc. (Hons), University of Witwatersrand, 1956; Ph.D., University of Vermont, 1962. (1966–)

DONALD M. BROVERMAN, Ph.D., Professor of Psychology (Affiliate). A.B., Union College, 1952; M.A., Clark University, 1956; Ph.D., 1958. (1964–)

PAUL F. BURKE JR., Ph.D., Associate Professor of Classics, Department of Foreign Languages and Literatures Chair. A.B., Stanford University, 1965; Ph.D., 1971. (1976–)

NELSON M. BUTTERS, Ph.D., Associate Professor of Psychology (Affiliate). A.B., Boston University, 1960; M.A., Clark University, 1962; Ph.D., 1964. (1971–)

ANNE BUTTIMER, Ph.D., Professor of Geography. B.A., National University of Ireland, 1957; M.A., 1959; Ph.D., University of Washington, 1965. (1971–)

BARBARA R. CALVERIC, Ph.D. (Affiliate). B.A., University of Rochester, 1970; M.A., Clark University, 1974; Ph.D., Clark University, 1979. (1979–)

ROBERT F. CAMPBELL, Ph.D., Professor of American History. A.B., Yale

University, 1939; A.M., Columbia University, 1940; Ph.D., 1947. (1946–1957; 1960–)

VIRGINIA CARR, Ph.D., Associate Professor of English. B.A., Occidental College, 1968; M.A., University of Michigan, 1970; Ph.D., 1972. (1976–)

WILLIAM H. CARTER JR., Ph.D., Professor of English. A.B., Middlebury College, 1936; A.M., Harvard University, 1938; Ph.D., 1951. (1949–)

GERALD R. CASTONGUAY, Ph.D., Associate Professor of Music, Music Program Director. B.Mus., Boston University, 1959; M.Mus., Hartt College of Music, 1963; M.A., Harvard University, 1965; Ph.D., Rutgers University, 1975. (1970–)

R.J.O. CATLIN, M.B., L.R.C.G.P., Professor of Psychology (Affiliate). M.R.C.S., L.P.R.C.P., 1951; M.B.B.S., Guys Hospital Medical School, 1951; N.R.C.G.P., 1960; Diploma in Medical Jurisprudence, 1968; F.R.C.G.P., 1974. (1976–)

GARY N. CHAISON, Ph.D., Associate Professor of Management. B.B.A., Baruch College, 1966; M.B.A., 1967; Ph.D., State University of New York at Buffalo, 1972. (1981–)

ROLAND E. CHARPENTIER, M.Ed., Clinical Instructor in Education (Affiliate). B.S., Worcester State College, 1962; M.Ed., Worcester State College, 1965. (1971–)

ANDREW M. CHASE-KLAPPER, M.S., Visiting Assistant Professor of Mathematics. B.A., New York University, 1974; M.S., State University of New York at Binghamton, 1975; M.S., Stanford University, 1976. (1981–)

ROBERT A. CIOTTONE, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Seton Hall University, 1963; M.A., University of Rochester, 1965; Ph.D., 1967. (1971–)

LEONARD E. CIRILLO, Ph.D., Associate Professor of Psychology, B.A., City College of New York, 1958; M.A., Clark University, 1962; Ph.D., 1965. (1968–)

SUSAN CLICKNER, B.Mus., Associate Professor of Voice (Affiliate). B.Mus. in Voice, Indiana University, 1955; Diploma, Curtis Institute of Music, 1959. (1970–)

EDWARD CLINE, Ph.D., Associate Professor of Mathematics, Department of Mathematics Chair. B.S., California Institute of Technology, 1962; Ph.D., 1966. (1975–)

MORRIS H. COHEN, Ph.D., Professor of Government. Representative, Washington Semester Program. A.B., University of Chicago, 1939; Ph.D., 1950. (1947–)

SAUL B. COHEN, Ph.D., Research Professor of Geography (Affiliate). A.B., Harvard University, 1947; A.M., 1950; Ph.D., 1955. (1965–)

CHARLES COLEMAN, M.P.A., Visiting Instructor of Public Administration. B.A., University of Maryland, 1968; M.P.A., West Virginia University, 1975. (1979–)

M. MARGARET COMER, Ph.D., Assistant Professor of Molecular Biology. A.B., Harvard University, 1964; Ph.D., Purdue University, 1972. (1976–)

JOHN J. CONRON, Ph.D., Associate Professor of English. A.B., Brown University, 1961; M.A., University of Michigan, 1966; Ph.D., University of Michigan, 1970. (1977–)

GERARD T. CORCORAN, M.A., Registrar. B.A., University of Connecticut, 1957; M.A., 1961. (1966–)

CAROLYN COTSONAS, J.D., Assistant Professor of Psychology

(Affiliate). B.A., Jackson College, Tufts University, 1970; J.D., Harvard Law School, 1974. (1976–)

FRANCIS G. COUVARES, Ph.D., Assistant Professor of History. B.A., University of Pittsburgh, 1969; M.A., University of Michigan, 1973; Ph.D., 1980. (1980–)

SAMUEL P. COWARDIN III, Ph.D., Associate Professor of Art History. A.B., Harvard University, 1943; A.M., 1948; Ph.D., 1963. (1949–)

JOSEPH C. CURTIS, Ph.D., Professor of Zoology. B.A., Cornell University, 1951; Ph.D., Brown University, 1960. (1963–)

WILLIAM DAMON, Ph.D., Associate Professor of Psychology. B.A., Harvard University, 1967; Ph.D., University of California, Berkeley, 1973. (1973–)

JOHN A. DAVIES, Ph.D., Professor of Physics. B.S., University of Maryland, 1953; M.S., 1954; Ph.D., 1960. (1963–)

JOSEPH deRIVERA, Ph.D., Associate Professor of Psychology. B.A., Yale University, 1953; Ph.D., Stanford University, 1961. (1970–)

PATRICK DERR, Ph.D., Assistant Professor of Philosophy. B.A., Seattle University, 1972; Ph.D., University of Notre Dame, 1976. (1976–)

MARVIN A. D'LUGO, Ph.D., Associate Professor of Spanish. B.A., Brooklyn College, 1965; M.A. University of Illinois, 1967; Ph.D., 1969. (1972–)

DENNIS DUCSIK, Ph.D., Assistant Professor of Science, Technology and Society, Adjunct Assistant Professor of Geography. B.S., M.S., Massachusetts Institute of Technology, 1971; M.S., Elec. Eng., 1973; Ph.D., 1978. (1976–)

DANIEL DWORKIN, Ph.D., Research Associate Professor of Geography (Affiliate). B.A, Clark University, 1948; M.A., 1973; Ph.D., 1974. (1979–)

JAMES P. ELLIOTT, Ph.D., Associate Professor of English. B.A., Stanford University, 1966; Ph.D., Indiana University, 1971. (1971–)

CYNTHIA ENLOE, Ph.D., Professor of Government and International Relations, Department of Government and International Relations Chair. B.A., Connecticut College, 1960; M.A., University of California, Berkeley, 1963; Ph.D., 1967. (1972–)

KAREN L. ERICKSON, Ph.D., Professor of Chemistry. B.S., Siena Heights College, 1960; Ph.D., Purdue University, 1964. (1965–)

PAUL A. ERICKSON, M.A., Assistant Professor of Envrionmental Affairs (Affiliate). A.B., Clark University, 1966; M.A., 1968. (1979–)

RACHEL JOFFE FALMAGNE, Professor of Psychology. License in Psychological Sciences, University of Brussels, 1961; Docteur en Sciences and Psychologiques, 1967. (1973–)

WILLIAM R. FERGUSON, Ph.D., Assistant Professor of Spanish. A.B., Harvard College, 1965; A.M., Harvard University, 1970; Ph.D., 1975. (1979–)

DAVID A. FINKEL, Ph.D., Assistant Professor of Psychology (Affiliate). B.A., Boston University, 1961; M.S., University of Massachusetts, 1967; Ph.D., 1969. (1970–)

RICHARD B. FORD, Ph.D., Associate Professor of Comparative History, Codirector of International Development and Social Change Program. B.A., Denison University, 1957; M.A.T., Yale University, 1959; Ph.D., University of Denver, 1966. (1968–)

RONALD P. FORMISANO, Ph.D., Professor of American History. B.A., Brown University, 1960; M.A., University of Wisconsin, 1962; Ph.D., Wayne State University, 1966. (1973–)

THOMAS P. FRIEND, M.Ed., Liaison and Clincal Instructor in Education (Affiliate). B.S., Worcester State College, 1955; M.Ed., 1959. (1977–)

DOUGLAS H. FUCHS, Ph.D., Assistant Professor of Education. B.A., Johns Hopkins University, 1971; M.S., University of Pennsylvania, 1973; Ph.D., University of Minnesota, 1978. (1980–)

WESLEY M. FULLER, M.Mus., Associate Professor of Music. B. Mus., Oberlin Conservatory of Music, 1953; M.Mus., Boston University, 1958. (1963–)

HOWARD E. GARDNER, Ph.D., Assistant Professor of Psychology (Affiliate). A.B., Harvard College, 1965; Ph.D., Harvard University, 1971. (1973–)

STANFORD N. GERBER, Ph.D., Associate Professor of Social Anthropology and Sociology, Department of Sociology and Social Anthropology Acting Chair. B.A., University of Kansas City, 1955; M.A., 1957; Ph.D., University of Missouri, 1966. (1968–)

JOYCE T. GIBSON, M.A., Dean of Students. B.S., Howard University, 1967; M.A., George Washington University, 1969. (1979–)

RENEE L. GOLDBERG, M. Ed., Clincal Instructor in Education. B.A., University of Pennsylvania, 1970; M. Ed., Ohio University, 1971. (1978–)

HAROLD GOODGLASS, Ph.D., Professor of Psychology (Affiliate). A.B., College of the City of New York, 1939; A.M., New York University, 1948; Ph.D., University of Cincinnati, 1951. (1956–)

HARVEY A. GOULD, Ph.D., Associate Professor of Physics. B.A., University of California, Berkeley, 1960; Ph.D., 1966. (1971–)

BONNIE LEE GRAD, Ph.D., Assistant Professor of Art History. B.A., Cornell University, 1971; Ph.D., University of Virginia, 1977. (1977–)

ROCHELEAU Z. GRANGER JR., A.M. in Ed., Department of Physical Education Chair. A.B., Clark University, 1938; A.M. in Ed., 1969. (1942–)

SANTE GRAZIANI, M.F.A., Associate Professor of Art (Affiliate). B.F.A., Yale University, 1942; M.F.A., 1948. (1958–)

FREDERICK T. GREENAWAY, Ph.D., Assistant Professor of Chemistry. Ph.D., University of Canterbury, 1973. (1980–)

MARCEL GUT, Ph.D., Professor of Chemistry (Affiliate). Ph.D., University of Basel, 1947. (1972–)

SIXTEN HARALDSON, M.D., Associate Professor of International Development (Affiliate). M.D., University of Lund, 1941. (1979–)

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F. Donald Stockwell, Assistant to Director/Electrical Systems
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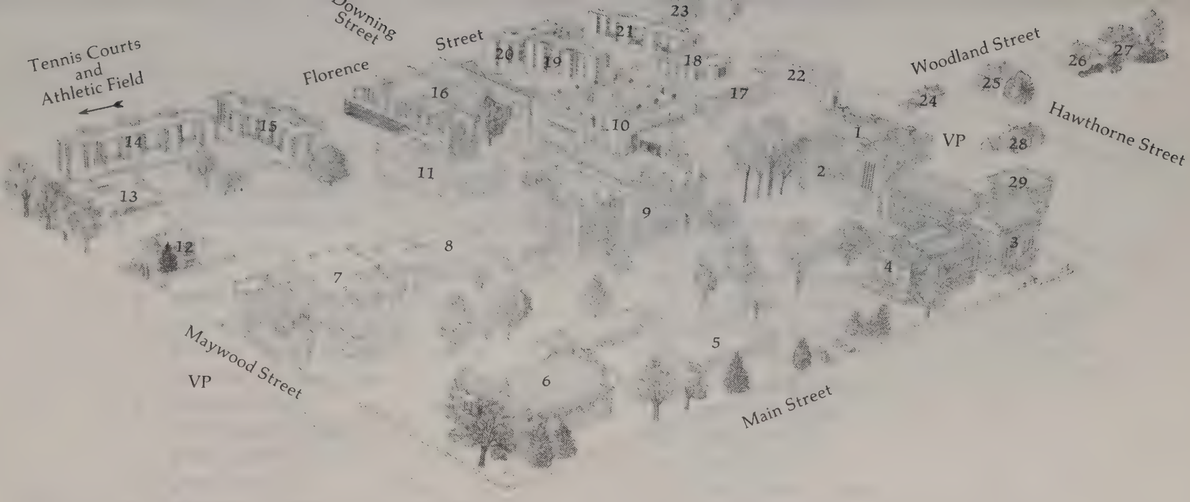
Tennis Courts and Athletic Field
Florence
Downing Street
Street
Woodland Street
Hawthorne Street
Maywood Street
Main Street
VP
VP
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MAP KEY

1. Downing Administration Center
2. Atwood Hall
3. Academic Center
4. Geography Building
5. Jefferson Hall
6. Alumni Gymnasium
7. Science (Bio-Physics) Building
8. Jeppson Laboratory
9. Jonas Clark Hall (COPACE)
10. Robert Hutchings Goddard Library
11. Bullock Hall
12. Potter Laboratory
13. Dana Commons
14. Dana Dormitory
15. Hughes Hall
16. Student Activities Center
17. Wright Hall
18. Little Center for the Visual and Performing Arts
19. Dodd Hall
20. Johnson Hall
21. Sanford Hall
22. Estabrook Hall
23. Physical Plant
24. Alumni House
25. English House
26. Carriage House
27. Department of Management
28. Cooperative Nursery; Commuter Lounge
29. Downing Residence

VP Visitor's Parking Area

RHODE ISLAND SCHOOL OF DESIGN

TWO COLLEGE STREET PROVIDENCE, RHODE ISLAND 02903 TELEPHONE 401-331-3511

Pricilla
Office of the Registrar
Clark University
950 Main St.
Worcester, MA 01610

16 May '88

Dear Pricilla...

In response to your inquiry please find enclosed two different descriptions of the course, Primitivism in Art, which I taught at Clark a few years ago. The course is an art history course which traces the influence of certain primitivizing ideas on the production of art -- painting and sculpture mostly.

I hope the descriptions are sufficient for your purposes.

Sincerely,
Baruch D. Kirschenba

RISD
1877

CLARK UNIVERSITY
950 Main Street Worcester Massachusetts 01610-1477

Office of the Registrar

Telephone (617) 793-7426

ART 104 PRIMITIVISM

PRIMITIVISM IN ART B. KIRSCHENBAUM

Primitivism is the belief that there was a time in the remote past when life was free of all ills and that it is possible to participate in that original perfection. Whether called Eden, Arcady, Golden Age or Holistic, ideas of exemplary beginnings have had an important effect upon art. That effect will be studied through the works of: Bosch, Titian, Gauguin, Picasso, Dubuffet and others.... THE COURSE REQUIRES CONSIDERABLE READING.......................................

PRIMITIVISM IN ART

INSTRUCTOR: KIRSCHENBAUM.. PLEASE NOTE******THIS IS NOT A COURSE ON PRIMITIVE OR TRIBAL ART. IT IS A COURSE THAT TRACES THE EFFECT OR A NUMBER OF IDEAS ABOUT THE PRIMITIVE BEGINNINGS OF HUMAN LIFE ON THE ARTISTIC IMAGINATION AND THE ACTUAL PRODUCTION OF ART. PRIMITIVISM IS A CONSCIOUS RETURN TO THOSE BEGINNINGS WHETHER THEY ARE FOUND IN THE ACTUALITY OF "PRIMITIVE" ART OR IN IDEAS ABOUT HUMAN LIFE IN THE GARDEN OF EDEN OR THE GOLDEN AGE BEFORE THE FALL INTO ORDINARY LIFE AND HISTORY. PRIMITIVISM AND PRIMITIVIZING ELEMENTS WILL BE STUDIED IN THE WORK OF BOSCH, TITIAN, CLAUDE, GAUGUIN, PICASSO, DALI, DU BUFFET AND OTHERS.